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ABSTRACT

A study was done to determine demographic characteristics, inservice needs, and preferences toward inservice activities of part-time adult vocational teachers in Pennsylvania. A survey instrument was sent to 4,141 individuals currently teaching adult vocational classes in Pennsylvania. The respondents were asked for background information, their perceptions of desire for and acquired proficiency levels in thirty-four competency areas, and their preferences toward inservice activities. The results of this study found (1) that most adult vocational teachers were teaching at the secondary level full-time and at the adult level part-time, (2) that the majority of adult vocational teachers held no valid teaching certificate and were not pursuing any type of degree or certificate, (3) that adult vocational teachers perceived themselves as being less proficient than desired for adult vocational teachers in most competency areas, (4) that the competency areas in which adult vocational teachers needed to improve their proficiency to the largest degree were in providing special instruction or assistance to second language or disadvantaged and handicapped students, and in utilizing an advisory committee to determine student and community needs, and (5) that although adult vocational teachers differed on the preferred strategies for carrying out inservice activities, 75% indicated a willingness to participate. (The survey instrument and a table showing the respondents' status in thirty-four competency areas are appended.) (Author/EM)

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THE PENNSYLVANIA STATE UNIVERSITY
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Assessment of Inservice Needs of Part-time Adult Vocational Teachers in Pennsylvania

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AND
Stephen E. Hill
AND
Carolyn B. Foust

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ASSESSMENT OF INSERVICE NEEDS OF PART-TIME ADULT VOCATIONAL TEACHERS IN PENNSYLVANIA

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June 1977

CE 013 174

Research Abstract

Assessment of Inservice Needs of Part-time Adult Vocational Teachers in Pennsylvania

The purposes of this study were to determine: 1) demographic characteristics, 2) inservice needs, and 3) preferences toward inservice activities of part-time adult vocational teachers in Pennsylvania.

A three part survey instrument was administered by mail to 4141 individuals currently teaching adult vocational classes in Pennsylvania. The survey instrument asked respondents for background information, their perceptions of desire and acquired proficiency levels of adult vocational teachers in 34 competency areas, and their preferences toward inservice activities.

The results of this study found most adult vocational teachers to be teaching secondary full-time and adult vocational part-time. The majority held no valid teaching certificate and were not pursuing any type of degree or certificate.

Adult vocational teachers perceived themselves as being less proficient than desired for adult vocational teachers in most competency areas. The competency areas which adult vocational teachers needed to improve their proficiency to the largest degree were in providing special instruction or assistance to second language or disadvantaged and handicapped students, and utilizing an advisory committee to determine student and community needs.

Although adult vocational teachers differed on the preferred strategies for carrying out inservice activities, 75 percent indicated a willingness to participate.

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Preface

This is the first in a series of monographs dealing with adult vocational teachers in Pennsylvania. Its purpose is to provide information on the characteristics, inservice needs, and preferences toward inservice activities of part-time adult vocational teachers throughout the state.

Trends in adult vocational education indicate a need to involve the part-time adult vocational teacher in ongoing inservice activities for the improvement of instruction in adult vocational programs.

Changes in our society place great demands on educators to constantly update their knowledge and skills. Many areas of concern in the recent federal vocational legislation affect the adult vocational teacher. Adult vocational teachers require assistance dealing with the implications of such legislation. Teacher education institutions can assist these individuals by providing inservice activities relevant to their immediate needs.

Vocational teacher education programs must provide activities to meet the needs of part-time adult vocational teachers. This inservice needs assessment survey attempted to compile information to enable the designated vocational teacher education institutions to coordinate inservice activities for part-time adult vocational teachers in Pennsylvania.

Table of Contents

	Page
Research Abstract	ii
Acknowledgements	iii
Preface	iv
List of Tables	vii
List of Figures	ix
Chapter	
I. Introduction	1
Background of the Study	1
Need for the Study	2
Delimitations	2
Statement of Problem	3
Definition of Terms	3
II. Review of Related Literature	6
Adult Education	6
Part-time Community College Instructors	7
Adult Education in Agriculture	8
Trade and Industrial and Technical Education	10
Center for Vocational Education--Ohio State University	12
Summary	13
III. Procedures	15
Development of the Instrument	15
Design	15
Field Testing	15
The Survey Instrument	16
Part I: Demographic Data	16
Part II: Inservice Needs	16
Part III: Inservice Activities	17
Data Collection	18
Statistical Analysis of the Data	19
IV. Findings	21
Introduction	21
Demographic Data	21
Age of Adult Vocational Teachers	21
Employment Status	22
Teaching Area of Adult Vocational Classes	24
Teaching Experience in Adult Vocational Education	24
Work Experience Other Than Teaching	27
Types of Teaching Certificates	27
Subject Area of Certification	29
Highest Level of Education	29
Special Training Programs	29
Present Educational Development	33
Specific Training in Teaching Adults	33

Table of Contents (Continued)

Chapter		Page
	Certification of Part-time Adult Vocational Teachers	36
	Competency Areas	38
	Average Regional Proficiency Scores	38
	Individual Proficiency Scores	43
	Competencies Ranked in Order of Need to Increase Proficiency	44
	Inservice Activities	49
	Projected Adult Vocational Teacher Participation in Inservice Activities	49
	Desired Type of Inservice Activities	49
	Type of Credit Desired	51
	Most Convenient Times for Adult Vocational Teachers to Attend Inservice Activities	52
	Distance Adult Vocational Teachers were Willing to Travel to Attend Inservice Activities	55
V.	Discussion and Recommendations	56
	Discussion	56
	Recommendations	61
References		62
Appendixes		
A.	Letters to Adult Vocational Instructors	64
B.	Survey Instrument	68
C.	Adult Vocational Teachers' Status in 34 Competency Areas	78

List of Tables

Table		Page
3.1	Sample and Response of Adult Vocational Teachers to Survey Instrument.	19
4.1	Age of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania	22
4.2	Employment Status of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania.	23
4.3	Teaching Area of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania	25
4.4	Part-time and Full-time Teaching Experience in Adult Vocational Education of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania.	26
4.5	Work Experience Other Than Teaching, in Teaching Area of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania	27
4.6	Types of Teaching Certificates Held by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania.	28
4.7	Subject Area of Certification of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania	30
4.8	Highest Level of Education of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania.	31
4.9	Special Training Programs Participated in by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania	32
4.10	Specific Training in Teaching Adults Participated in by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania	36
4.11	Competency Areas Ranked According to the Needs of Teachers in the Western Region	45
4.12	Competency Areas Ranked According to the Needs of Adult Vocational Teachers in the Central Region	47
4.13	Competency Areas Ranked According to the Needs of Adult Vocational Teachers in the Eastern Region	48

Table | Page

4.14. Type of Inservice Activities Desired by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania. 51

4.15 Type of Credit Desired by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania for Participation in Inservice Activities 52

4.16 Most Convenient Times for Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania to Attend Inservice Activities. 53

4.17 Distance Adult Vocational Teachers in the Western, Central and Eastern Regions Were Willing to Travel to Attend Inservice Activities 55

List of Figures

Figure		Page
3.1	Flow diagram for the Inservice Needs Assessment of Part-Time Adult Vocational Teachers in the Central Region of Pennsylvania	20
4.1	Percent of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania Currently Working on Another Degree	34
4.2	Percent of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania Currently Working on Another Certificate.	35
4.3	Perceptions of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania Concerning the Need for Part-time Adult Vocational Teachers to be Certificated	37
4.4	A Comparison of Mean Desired and Mean Acquired Proficiency Scores of Adult Vocational Teachers in the Central Region.	40
4.5	A Comparison of Mean Desired and Mean Acquired Proficiency Scores of Adult Vocational Teachers in the Western Region.	41
4.6	A Comparison of Mean Desired and Mean Acquired Proficiency Scores of Adult Vocational Teachers in the Eastern Region.	42
4.7	Projected Adult Vocational Teacher Participation in Inservice Activities.	50

Chapter I

Introduction

Background of the Study

Part-time faculty have often been considered a neglected group in the educational setting. Conditions of their part-time employment, and variations in the student population often create barriers to improving the quality of adult vocational programs.

Vocational programs throughout Pennsylvania which are designed to reach adult learners differ in scope and purpose. Some adult vocational programs offer short-term courses designed to upgrade individuals' skills for employment or personal use; while others designed to prepare individuals for employment are usually of longer duration.

The part-time faculty employed to instruct adult vocational course offerings are faced with a diverse student population. The adult learner varys greatly in past experiences, abilities, and objectives for participants in an adult vocational program. Some adults are upgrading skills, others are entering programs with little or no background, and others may be competent in a closely related field and are developing additional skills or backgrounds.

The nature of part-time employment suggests that most faculty would have other outside interests and commitments that influence total effectiveness of the adult programs. The temporary nature of these positions make it difficult to recruit part-time instructors, provide support for improvement of instruction, and to maintain continuity in instructional programming. Teachers recruited from different sources have different inservice needs for improving instruction in adult vocational

education. Regardless of the background of the recruited instructor, there are additional problems in maintaining, improving, and expanding the adult vocational programs.

Need for the Study

There have been few studies done on a comprehensive scale to determine the backgrounds of the part-time adult vocational instructors, and their needs and concerns for inservice education programs. Identifying specific characteristics of part-time instructors is made additionally difficult in Pennsylvania because of the absence of certification requirements for part-time adult vocational teachers. Since there are no certification requirements for part-time adult vocational instructors, there is little incentive for these people to participate in pre- and inservice teacher education programs. Other factors which discourage participation in these activities are time, scheduling conflicts, and previous educational backgrounds.

Instruction is greatly enhanced by the use of andragogical concepts because of the diverse adult student population. Adult learners in part-time vocational programs require instruction prescribed to their special needs. The part-time teachers also have varying backgrounds of professional development. Thus, there was a need to investigate the backgrounds and professional inservice needs of part-time adult vocational teachers in Pennsylvania.

Delimitations

This study focused on the part-time adult vocational faculty in Pennsylvania. A segment of the population surveyed was teaching adult

vocational full-time. Persons teaching secondary full-time and adult vocational part-time, working outside education full-time and teaching adult vocational part-time, teaching adult vocational part-time only, and those in administrative positions full-time and teaching adult vocational part-time were also surveyed. This study did not include faculty teaching elementary or secondary education exclusively. This study investigated teacher characteristics, inservice needs, and inservice scheduling preferences for part-time adult vocational teachers willing to participate in a teacher education program.

Statement of Problem

The study was designed to:

1. determine selected demographic characteristics of the part-time adult vocational teachers,
2. ascertain the perceptions of part-time adult vocational teachers on their inservice needs, and
3. determine the scheduling preferences of part-time adult vocational teachers for inservice activities.

Definition of Terms

Acquired Proficiency Level: The response of part-time adult vocational teachers on a five-point scale as to the present degree of competence maintained by the teacher him/herself in a competency area.

Adult Learner: Any person over the age of sixteen who has left the formal school setting and has returned to an educational activity.

Adult Vocational Education: Programs of vocational and technical training or retraining to prepare adults to enter the labor market or upgrade their skills; or for employed persons in the labor market

requiring training or retraining to achieve stability or advancement in employment, or for the purpose of increasing educational attainment (Pennsylvania Department of Education, 1977).

Andragogy: The art and science of helping adults learn (Knowles, 1970, p. 61).

Competency: The knowledge, skills, and attitudes required to perform a given task.

Competency Area: One of 34 identified areas of competence needed by adult vocational teachers to successfully perform in a learning situation.

Desired Proficiency Level: The response of part-time adult vocational teachers on a five-point scale as to the degree of competence needed by adult vocational teachers in a competency area.

Disadvantaged: A person who has a school recognized academic, socioeconomic, cultural, or other disadvantage, that makes it unlikely that the student will succeed in a vocational curriculum designed for persons without such disadvantages, and who for that reason requires a specially designed vocational curriculum and/or special group or individual pupil services outside of the standard curriculum (Pennsylvania Department of Education, 1977).

Handicapped: A person who has a school-recognized physical or mental condition that requires a specially designed vocational education curriculum or special services outside a regular vocational curriculum (Pennsylvania Department of Education, 1977).

Proficiency Unit: The difference between the individual's perception of the desired level of proficiency needed by adult vocational teachers and the individual's acquired level of proficiency in a competency area.

Special Needs: Any person who because of a handicap or disadvantagement requires special services outside the regular vocational program in order to succeed.

Subject Matter Areas: General areas of study in vocational education including agriculture, distributive education, health occupations education, useful and gainful home economics, business, trade and industry, and technical.

Chapter II

Review of Related Literature

The intent of this review of related literature is to summarize and examine comparable studies in the identification of competencies appropriate to the teaching of adults and the assessment of in-service needs for part-time adult vocational teachers.

Adult Education

Studies were reviewed that dealt with various processes of competency identification for adult education teachers. Fenn (1972) identified 34 professional competencies appropriate to Adult Basic Education teachers. These competencies were ascertained by responses of teachers, students, county administrators, state department of education personnel, and teacher educators in adult education. The competencies identified in this study were not comprehensive in relation to adult vocational education, but provided competency areas unique to adult basic education teachers. The 34 competency areas were relevant to vocational education and provided an adult education perspective for working with unemployed, underemployed, and/or educationally disadvantaged adult learners.

The adult basic education student population is a potential source of recruitment into adult vocational programs. Many of these adult learners have entered vocational programs therefore increasing the importance of competence in working with this student client.

Mocker (1974) identified competencies relating to the teaching of adults. The report identifies the need for teachers to be able to work with adults with a wide range of interests and abilities. Individualized instruction was identified in both the Fenn (1972) and Mocker (1974) studies, as a method for dealing with the diverse student population.

Part-time Community College Instructors

Studies related to part-time faculty at the community college provided both substantive and procedural assistance in the development of this project. The clientele of the community college is representative of some adult participants in vocational programs, as some states house adult vocational programs in the community college. Therefore competencies identified for community college instructors are closely related to competencies needed by adult vocational teachers in Pennsylvania.

In a Technical Report developed by Oregon State University, Division of Vocational, Adult and Community College Education (1971) common professional education competencies of community college vocational instructors were determined. This process of competency identification and ranking was done in four western states representing eight subject matter areas. Instructors were asked to evaluate 99 professional education competencies to denote the level of proficiency they felt was necessary in relation to their jobs as community college vocational instructors. The competencies were assigned a proficiency level based on a five point likert type scale. The competencies were then ranked and clustered for purposes of inclusion in teacher education curriculum.

The conclusions of the Oregon State University Study showed that:

1) Community college instructors of vocational education subjects resemble one another with regard to the 99 competencies.
2) Clusters of competencies can be generated for the curriculum through factor analysis procedures.
3) Community Colleges are very much alike in the instructor characteristics measured (Oregon State University, 1971).

Two important implications resulted from this study. The high degree of commonality demonstrated by the responses to the competencies studied should cause teacher educators to examine course proliferation caused by separate departments within vocational teacher education. The competencies identified could provide a source of performance based curricula to be incorporated into comprehensive teacher education programs.

A second major consideration based on this study was that those competencies with high mean scores should be included in vocational teacher education programs. Those that were ranked lower should be reviewed to determine the extent to which they are included in existing programs.

The competencies that were ranked the highest in terms of level of necessary proficiency were instructional management and teaching and guidance strategies. The areas that received the lower rankings were history and philosophy of vocational education, and legal aspects of education.

Adult Education in Agriculture

Vocational agriculture has included adult education in many teacher education programs. The professional education competencies and teacher

education needs in vocational agriculture are relevant to the programming of inservice activities for all part-time adult vocational teachers. Morris (1956) identified 154 essential teaching competencies from the professional literature. Vocational agriculture teachers then ranked each competency on its degree of importance and development. In this study some of the competencies in the area of community and public relations ranked higher in importance than those competencies relating to the area of planning and organizing teaching activities.

A similar study by Reed (1970) focused on identified problem areas and implications for teacher education. The purpose of the study was to survey beginning teachers about their major concerns in the initial teaching situation. The major areas of concern were classroom teaching techniques, farm mechanics, advising FFA, and public relations. Reed recommended the problem areas be used as feedback to teacher education programs for program adjustment.

The appraisal of Pennsylvania's agriculture programs for adults Witmer (1972), determined that 81 percent of the secondary schools surveyed had programs in operation less than fifteen years. The study showed that the scope of the programs surveyed fell about 20 percent below national averages. The major reason given for not initiating programs was the full-time teaching load of available teachers. The findings of this study are important indicators in the need for pre- and inservice activities for teaching adults in Pennsylvania.

Trade and Industrial and Technical Education

Studies have been done to determine the inservice needs of Trade and Industrial, and Technical teachers. The studies identified the competencies relevant to teaching adults and problem areas in the trade and industrial and technical areas. These studies were examined for perspectives on pre- and inservice needs of teachers in those areas.

Chambliss (1967) used 60 rudiments on a questionnaire to determine the inservice needs of Trade and Technical teachers. Each teacher responded to the degree of improvement needed for each rudiment. The teacher then responded to the preferred assistance from four choices. The assistance possibilities included were: 1) administrative leadership, 2) supervision, 3) instruction, and 4) clerical. The perceptions of administrators and related subjects instructors were also included in the study. The needs found to be common to the three groups were in the areas of participation in professional organizations, reading professional journals, and instruction in trade and technical education. The recommendations of this study included the ongoing inservice activities through seminars and institutes and the use of consultants to provide professional assistance.

Holmen (1970) determined the major professional problems of trade and technical teachers in Iowa as ascertained by themselves and their supervisors. The major problems included:

1) selecting texts, references, and related reading material,
2) allocating time to each unit,
3) planning and presenting related materials, and
4) preparing tests.

The main causes of the problem areas were identified as being inadequate time and inadequate educational preparation.

Holmen (1970) also collected demographic data on the surveyed population and found that the teachers had little formal education preparation and much trade experience. It was found that one-third had no education beyond high school and less than one-fifth had college degrees. Thirty-five percent had 20 years or more experience in the trade area. Holmen, therefore, suggested a major need for pre- and inservice education to assist the trade and technical teacher in the transition from industry to teaching.

Spaulding (1971) examined the effectiveness of instruction based on a profile of the vocational teacher. Achievement tests were used to measure student gain. Students' achievement tests scores were then analyzed in relation with the profile of the teacher. A characteristic of teachers whose students made the greatest gains on the achievement tests were high school graduates but did not hold a college degree. Another characteristic was participation in educational preparatory courses. The profile also included the teacher who read five publications regularly. The number of years experience in the trade area was not found to be significant.

Problems of the part-time adult trade and technical teachers were studied in Michigan Community Colleges by Schmitt (1971). This study analyzed the problems of the part-time teacher as perceived by supervisors, teachers themselves, and adult students. The supervisors' perceptions of problem areas included the methods of selecting and organizing class material, evaluating students, selecting and using teaching aids and related materials.

The teachers perceived their major professional problems to be

lack of materials such as course outlines,

self evaluation measures,

adapting instruction to individual differences, and

determining exit competencies for the vocational program.

Baldus (1974) identified professional teaching competencies of part-time adult vocational teachers as perceived by supervisors and the teachers themselves. The supervisors ranked teaching techniques, planning and organizing instructional materials, and using audio-visual devices as the areas of greatest need. The teachers ranked the same competency areas as areas of greatest inservice need. Both groups perceived a need for professional preparation in these areas.

Each trade area is not unique in its need for pre- and inservice activities for teachers. The perceptions of relevant competency areas are quite similar regardless of the occupational area. The studies reviewed showed little difference in inservice needs in relation to a specific occupational area.

Center for Vocational Education--Ohio State University

The Center for Vocational Education at the Ohio State University developed a program of performance based teacher education in 1975. This process resulted in the identification of common competencies needed by teachers in seven subject areas.

The first phase of the Center's project was to establish a research base of essential competencies needed by secondary and/or postsecondary teachers. Approximately 1000 vocational teachers, supervisors, and teacher educators were involved in the identification and verification of 384 competencies essential for vocational teachers. These 384 competencies

were then categorized into ten major competency areas. The competencies were used to develop instructional objectives for the 100 modules developed for use in vocational teacher education programs. The refinement of the identified competencies provided the basis for a standardized sequence of competencies for vocational teachers in the major content areas. The feedback received after more extensive use of the center's materials may result in further revision of the identified competencies.

The competencies included in the Center's project were applicable to secondary and postsecondary adult vocational teachers. There was no distinction made between content areas or student clientele. The research base does provide the essential elements of vocational teaching but is not inclusive of competencies essential for effectively teaching the adult learner.

Summary

Survey instruments, as well as the results of selected studies were reviewed prior to the development of the survey instrument used in this study. Related literature revealed no comprehensive listing of competencies relevant to adult vocational teachers in all subject matter areas. Needs assessment studies from various vocational subject areas, adult education and community college programs were examined.

Research in identifying adult basic education teacher competencies provided a basis for including competency areas in working with adults. The competencies common to part-time vocational community college teachers were relevant to part-time adult vocational education in Pennsylvania. Agriculture education contributed much in area of identifying adult teaching competencies and major problems areas encountered in the initial teaching situation.

The professional competencies for adult agriculture, trade and industrial, and technical teachers identified in the literature are adaptable in teacher education programs of all subject areas. Competencies necessary for community college vocational teachers, as well as the competencies identified by the Center for Vocational education at Ohio State University are also common to the vocational areas.

The examination of related literature facilitated the selection and adaptation of competencies relevant to adult vocational education in Pennsylvania. The selected competencies provided a research base for pre- and inservice needs assessment of part-time adult vocational teachers in Pennsylvania.

Chapter III

Procedures

The purposes of this study were to determine demographic characteristics of part-time adult vocational teachers in Pennsylvania; their inservice needs; and their preferences toward inservice activities. This chapter describes the procedures used in the development of the survey instrument, selection of the survey population, and collection and analysis of data.

Development of the Instrument

To fulfill the objective of this study, a survey instrument was designed, field tested, and revised into the three part final form. Data on the Central region, obtained from this instrument, was used by The Pennsylvania State University for the planning of inservice activities in the Spring of 1977. Data from the Western and Eastern Regions may be useful to other vocational teacher education institutions throughout Pennsylvania for future inservice and preservice program planning.

Design. The instrument was designed in three parts in order to collect all the information relevant to the objective of this study. Questions were designed to determine: demographic data on the survey population, their inservice needs, and preferences toward inservice activities. A copy of this three part instrument is found in Appendix B.

Field Testing. To assure the development of a sound instrument, two groups of vocational teachers at The Pennsylvania State University were asked to answer the questionnaire and critically analyze it for content,

form, and clarity. On the basis of the recommendations, necessary changes were made. The finalized instrument was then sent to The Pennsylvania State University Human Subjects Review Committee for clearance. This committee approved the instrument.

The Survey Instrument. The final form of the survey instrument contained 95 items, sub-divided into three parts: demographic data, data on inservice needs, and data on preferences for inservice activities.

Part I: Demographic Data. Several questions were developed to determine the background of adult vocational teachers. The questions requested information on: age, present employment status, teaching area of adult vocational classes, full and part-time teaching experience in adult vocational education, work experience, other than teaching, in the adult vocational teaching area; type of teaching certificate(s), area(s) of certification, highest level of education, special training programs for teaching adults; and a personal response to the question "Should part-time adult vocational teachers be certificated?"

Part II: Inservice Needs. Part II of the survey instrument was designed to identify the inservice needs of adult vocational teachers. To achieve this goal, a list of 34 competencies, of special significance to adult vocational teachers, was developed. The list of competencies were basically adopted from research conducted in 1975, by Performance Based Curricula Program, The Center for Vocational Education, at The Ohio State University. To address the adult competency component, two other studies were utilized: "Professional Education Competencies of Community College Instructors" developed by the Division of Vocational, Adult, and

Community College Education at Oregon State University (1971); and "A Report on the Identification, Classification and Ranking of Competencies Appropriate for Adult Basic Education Teachers' by Donald W. Mocker in 1974.

Competencies were developed that dealt with program planning, development, and evaluation; curriculum development; guidance; classroom management; and providing instruction to special groups. Respondents were asked to select a proficiency level they felt adult vocational teachers should have in each competency area.

They were then asked to mark their present proficiency level for each of the competencies. To assess the inservice needs of adult vocational teachers, a comparison was made between the desired and acquired proficiency levels marked by the respondents; yielding proficiency units. A proficiency unit was defined as the difference between the individual's perception of the desired level of proficiency needed by adult vocational teachers, and the individual's acquired level of proficiency, in a competency area. This difference score was computed by assigning a numerical value to each of the possible response categories: "no" = 1, "slight" = 2, "moderate" = 3, "considerable" = 4 and "complete" = 5. The difference was computed for every individual in each of the 34 competency areas. The number of proficiency units needed for all adult vocational teachers in each region were summed, to give a regional total for each competency area. Inservice activities were planned for teachers in the Central region, on the basis of these determined needs.

Part III: Inservice Activities. The third part of the survey instrument provided respondents with an opportunity to indicate their

preferences for inservice activities. Questions included information on: willingness to participate; type of credit; type of inservice; convenient times to attend; and maximum distance of travel. Inservice activities were scheduled to match the preferences of adult vocational teachers in the Central Region as expressed in Part III of the survey instrument.

Coded Identifier. The upper right hand corner of the first page of the survey instrument contained a five digit coding system. The first four numbers identified the individual teacher; while the last number identified the vocational region. The coding system was designed to enable a follow-up request for the return of the survey instrument for those teachers not responding to the first request. This coded key was destroyed after the follow-up mailing to assure individuals anonymity. The responses of adult vocational teachers were grouped with other teachers within the same region for the final data analysis.

Data Collection

Contact with participants was made by mail in November 1977. Each adult vocational teacher was sent:

1) a cover letter describing the study (see Appendix A);
2) a three part survey instrument (see Appendix B); and
3) a self-addressed prepaid return envelope.

As returns were received, they were recorded. To increase the rate of return, a follow-up letter was sent to adult vocational teachers in late November. Returns were accepted until mid January 1977. A total of 1660 returns were received. Table 3.1 illustrates the information concerning those returns. To achieve accuracy in the survey results, the survey instruments were grouped according to regions. Data were coded and punched onto IBM cards for processing.

Statistical Analysis of the Data

The data were processed at the Computation Center of The Pennsylvania State University using the program "Statistical Package for the Social Sciences" (SPSS, 1976). Two sub-programs were used to obtain the necessary information. Sub-program "frequencies" was used to obtain the frequency and percentage of responses to each of the 96 variables. The mean scores on specified variables were also obtained using the sub-program "frequencies." The sub-program "cross-tabs" was used on specified variables to identify how responses on one variable related to responses of the same individuals on a second variable.

Table 3.1

Sample and Response of
Adult Vocational Teachers to the Survey Instrument

Questionnaires	Number	% of Total
Sent	4141	100.00
Returned--completed	1390	33.57
Returned--not currently teaching adult classes	114	2.75
Returned--undeliverable	113	2.73
Returned--unanswered	3	.07
Returned--completed after cut-off date	40	.96

Following statistical analysis, the final report was prepared, published and disseminated throughout Pennsylvania to interested individuals, institutions and the Bureau of Vocational Education. Figure 3.1 illustrates the plan of action followed throughout the study.

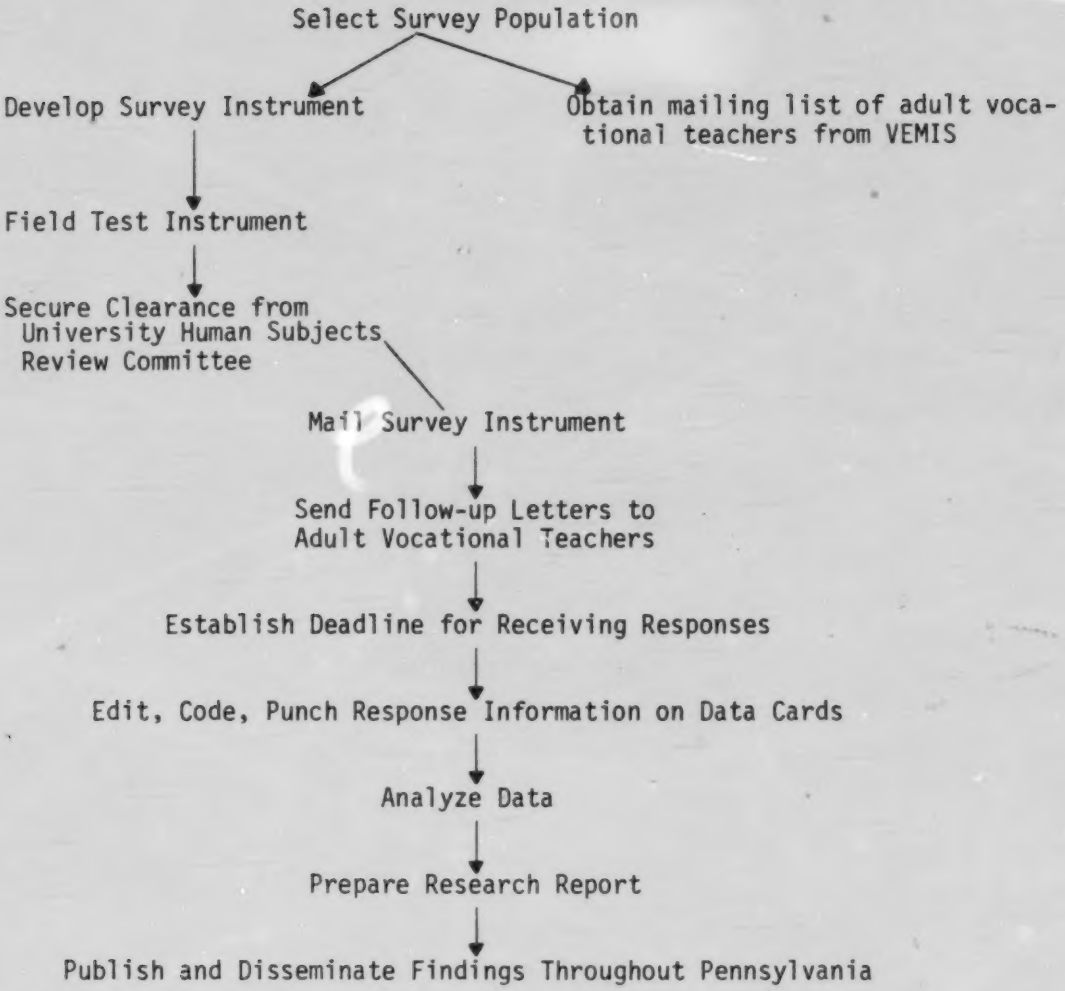
Select Survey Population
Develop Survey Instrument
Obtain mailing list of adult vocational teachers from VEMIS
Field Test Instrument
Secure Clearance from University Human Subjects Review Committee
Mail Survey Instrument
Send Follow-up Letters to Adult Vocational Teachers
Establish Deadline for Receiving Responses
Edit, Code, Punch Response Information on Data Cards
Analyze Data
Prepare Research Report
Publish and Disseminate Findings Throughout Pennsylvania

Figure 3.1. Flow diagram for Inservice Needs Assessment of Part-Time Adult Vocational Teachers in the Central Region of Pennsylvania.

Chapter IV

Findings

Introduction

The findings of this study are presented in three sections. The first section presents the findings of demographic data obtained from the survey population. Section two presents data on 34 competency areas relevant to adult vocational teachers. The third section presents responses from the survey population concerning inservice activities.

Individual responses to items were totaled and presented in table or chart form. Data relevant to each item on the survey questionnaire were separated according to the Eastern, Central, and Western vocational regions of Pennsylvania.

Demographic Data

Throughout the three regions of Pennsylvania, 1390 adult vocational teachers responded to the survey questionnaire. Their responses to items requesting demographic information are presented in Tables 4.1 through 4.12 and Figures 4.1 and 4.2. A more in-depth study of adult vocational teachers is found in: A Profile of Adult Vocational Teachers in Pennsylvania.

Age of Adult Vocational Teachers. Table 4.1 presents the frequency and percentage of individuals responding in each age category. The mean age category of adult vocational teachers from all three regions of

Table 4.1

Age of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Age	Western Region Number	Western Region % of Total	Central Region Number	Central Region % of Total	Eastern Region Number	Eastern Region % of Total
Under 25 yrs.	11	2.3	19	4.6	18	3.6
25-30 yrs.	82	17.3	83	20.2	90	17.8
31-35 yrs.	70	14.8	63	15.4	69	13.6
36-40 yrs.	53	11.2	60	14.6	67	13.2
41-45 yrs.	64	13.5	62	15.1	64	12.6
46-50 yrs.	57	12.1	53	12.9	78	15.4
51-55 yrs.	70	14.8	38	9.3	67	13.2
56-60 yrs.	35	7.4	16	3.9	32	6.3
61-65 yrs.	27	5.7	14	3.4	19	3.7
No Response	4	0.8	2	0.5	3	0.6
Total	473	100	410	100	507	100

Pennsylvania was 36-40 years. Data on the Central region indicated the highest percentage of adult vocational teachers were between the ages of 25 and 30. Twenty percent fell into that category. Seven percent of the teachers in the Central region will approach the retirement age within the next five years.

Employment Status. Table 4.2 presents the findings concerning the employment status of adult vocational teachers throughout the Western, Central and Eastern regions of Pennsylvania. In all three regions, the largest number of teachers were full-time secondary teachers and part-time adult vocational teachers. Fifty-one percent of the teachers in the

Table 4.2

Employment Status of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Employment	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
Teaching Adult Vocational Classes Full-Time	35	7.4	28	6.8	71	14.0
Teaching Secondary Full-Time and Adult Vocational Part-Time	250	52.9	209	51.0	208	41.0
Working Outside the Field of Education Full-Time and Teaching Adult Vocational Part-Time	97	20.5	84	20.5	124	24.5
Teaching Adult Vocational Part-Time Only	64	13.5	64	15.6	72	14.2
Coordinator, Supervisor or Administrator Full-Time and Teaching Adult Vocational Part-Time	21	4.4	23	5.6	23	4.5
No Response	6	1.3	2	0.5	9	1.8
Total	473	100	410	100	507	100

Central region held that employment status. Within the Central region, 20 percent of the teachers were working outside the field of education and teaching adult vocational classes part-time; while 16 percent were teaching adult vocational classes part-time only. Only 6.8 percent of the teachers in the Central region were teaching adult vocational classes full-time.

Teaching Area of Adult Vocational Classes. Trade and Industry teachers comprised at least one-third of all the adult vocational teachers throughout the three regions of Pennsylvania. Business education ranked second highest in the number of adult vocational teachers. Less than 1 percent of the adult vocational teachers were teaching distributive education. Findings concerning the teaching area of adult vocational classes are presented in Table 4.3.

Teaching Experience in Adult Vocational Education. Table 4.4 presents the full-time and part-time teaching experience of adult vocational teachers in the three regions of Pennsylvania. One-half of the respondents did not answer the question requesting the amount of full-time teaching experience. Of those teachers responding the highest percentage reported 0-1 year of full-time adult vocational teaching experience. The mean years of full-time teaching experience for full-time adult vocational teachers was 2-3 years.

Between 15 and 20 percent of the respondents in the various regions did not answer the question pertaining to the amount of part-time teaching experience. The average amount of part-time teaching experience acquired by adult vocational teachers throughout the state was four to five years. Less than 5 percent had taught adult vocational classes for more than 15 years.

Table 4.3

Teaching Area of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Subject Area	Western Region Number	Western Region % of Total	Central Region Number	Central Region % of Total	Eastern Region Number	Eastern Region % of Total
Agriculture	22	4.7	44	10.7	15	3.0
Distributive Education	2	0.4	1	0.2	3	0.6
Health Occupations Education	29	6.1	21	5.1	45	8.9
Useful Home Economics	40	8.5	36	8.8	24	4.7
Gainful Home Economics	10	2.1	6	1.5	8	1.6
Home Economics (Both Useful and Gainful)	7	1.5	7	1.7	6	1.2
Business Education	80	16.9	83	20.2	77	15.2
Technical	49	10.4	37	9.0	49	9.7
Trade and Industry	173	36.6	136	33.2	212	41.8
Any Two Areas	9	1.9	7	1.7	9	1.8
Other	44	9.32	30	7.3	24	4.7
No Response	8	1.6	2	0.4	35	6.8
Total	473	100	410	100	407	100

Table 4.4

Part-Time and Full-Time Teaching Experience in Adult Vocational Education of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Full-Time Teaching Experience	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
0-1 yr.	66	14.0	79	19.3	73	14.4
2-3 yrs.	36	7.6	23	5.6	43	8.5
4-5 yrs.	42	8.9	13	3.2	48	9.5
6-10 yrs.	48	10.1	31	7.6	60	11.8
11-15 yrs.	11	2.3	17	4.1	20	3.9
Over 16 yrs.	14	3.0	8	2.0	18	3.6
No Response	256	54.1	239	58.3	245	48.3
Total	473	100	410	100	507	100

Part-Time Teaching Experience	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
0-1 yr.	51	10.8	50	12.2	68	13.4
2-3 yrs.	111	23.5	76	18.5	113	22.3
4-5 yrs.	94	19.9	79	19.3	81	16.0
6-10 yrs.	86	18.2	92	22.4	82	16.2
11-15 yrs.	34	7.2	29	7.1	34	6.7
Over 16 yrs.	22	4.7	16	3.9	24	4.7
No Response	75	15.9	68	16.6	105	20.7
Total	473	100	410	100	507	100

Work Experience Other Than Teaching. Adult Vocational teachers indicated the number of years of work experience, other than teaching they had acquired in their adult vocational teaching area, to date. Table 4.5 summarizes those findings. The average number of years was found to be three to five. Within the Central region 32 percent of the teachers had zero to two years work experience while 25.2 percent in the Western region and 19.9 percent in the Eastern region had zero to two years work experience other than teaching.

Table 4.5

Work Experience, Other Than Teaching, in Teaching Area of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Work Experience	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
0-2 yrs.	119	25.2	129	31.5	101	19.9
3-5 yrs.	45	9.5	44	10.7	34	6.7
6-10 yrs.	71	15.0	50	12.2	75	14.8
11-15 yrs.	55	11.6	40	9.8	76	15.0
16-20 yrs.	32	6.8	32	7.8	48	9.5
Over 20 yrs.	87	18.4	58	14.1	112	22.1
No Response	64	13.5	57	13.9	61	12.0
Total	473	100	410	100	507	100

Types of Teaching Certificates

Table 4.6 illustrates the findings concerning the types of teaching certificates that adult vocational teachers held. Most frequently the adult vocational teacher held no certificate. Of those individuals holding valid teaching certificates, approximately 20 percent held a

Table 4.6

Types of Certificates Held by
Adult Vocational Teachers in the
Western, Central and Eastern Regions of Pennsylvania

Type of Certificate	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
None	119	25.2	131	32.0	144	28.4
Voc. Intern	17	3.6	9	2.2	24	4.7
Voc. Inst. I	63	13.3	36	8.8	69	13.6
Voc. Inst. II	97	20.5	90	22.0	97	19.1
Coord. of Voc. I	--	--	3	0.7	1	0.2
Coord. of Voc. II	--	--	--	--	--	--
Instructional I	36	7.6	31	7.6	30	5.9
Instructional II	52	11.0	65	15.9	34	6.7
Ed. Specialist I	4	0.8	1	0.2	2	0.4
Ed. Specialist II	4	0.8	2	0.5	2	0.4
Supervisory I	2	0.4	6	1.5	1	0.2
Supervisory II	--	--	--	--	--	--
Administrative I	3	0.6	--	--	--	--
Administrative II	--	--	--	--	--	--
Voc. and Ed. Specialist	3	0.6	1	0.2	--	--
Voc. and Supervisory	2	0.4	1	0.2	2	0.4
Voc. and Coord.	12	2.5	6	1.5	18	3.6
Voc., Coord., Supervisory	1	0.2	2	0.5	4	0.8
Voc. Inst., Adm.	1	0.2	--	--	--	--
Inst. and Coord.	2	0.4	1	0.2	1	0.2
Inst. and Ed. Specialist	5	1.1	--	--	2	0.4
Inst. and Supervisory	3	0.6	--	--	2	0.4
Inst., Coord., Supervisory	--	--	1	0.2	2	0.4
Inst. and Adm.	--	--	2	0.5	3	0.6
Ed. Specialist and Supervisory	--	--	2	0.5	9	1.8
Ed. Specialist, Supv., Adm.	--	--	--	--	1	0.2
No Response	47	9.9	20	4.8	58	11.5
Total	473	100	410	100	507	100

Vocational Instructional II certificate alone. No individuals were reported to have either the Coordinator of Vocational Education II, Supervisory II, or Administrative II certificates. On the average, 6.5 percent of the adult vocational teachers held more than one valid certificate.

Subject Area of Certification. Of the 1390 individuals responding to the questionnaire, only 798 indicated a subject matter area of certification. In the Western and Eastern regions the highest number of persons are certificated in the area of trade and industry. Approximately 20 percent fell into that category. Business education ranked second in the number of individuals certificated. In the Central region, 14.1 percent of the teachers were certificated in business education while 13.7 percent were certificated in trade and industry. Distributive education has the least number of individuals certificated in all regions. Table 4.7 presents these findings.

Highest Level of Education. The findings presented in Table 4.8 illustrate the similarities in levels of educational preparation of teachers in all three regions of Pennsylvania. Eighteen percent of the adult vocational teachers in Pennsylvania hold a G.E.D., high school diploma, or less. Twenty-seven percent hold a bachelor's degree and 18 percent hold a masters degree. Only 1 percent of the adult vocational teachers have earned a doctorate.

Special Training Programs. Table 4.9 presents the findings related to the special training programs of adult vocational teachers. Most frequently, teachers had not participated in any of the special training programs listed. Within the Central region, 35 percent reported no special training. The percentages were somewhat less in other regions.

Table 4.7

Subject Area of Certification of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Subject	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
Agriculture	19	4.0	40	9.8	9	1.8
Distributive Education	2	0.4	1	0.2	4	0.8
Health Occupations Education	7	1.5	2	0.5	14	2.8
Useful Home Economics	6	1.3	6	1.5	4	0.8
Gainful Home Economics	4	0.8	3	0.7	7	1.4
Home Economics (Both Useful and Gainful)	29	6.1	18	4.4	16	3.2
Business Education	57	12.1	58	14.1	55	10.8
Technical	23	4.9	15	3.7	32	6.3
Trade and Industry	92	19.5	56	13.7	111	21.9
Co-op Education	2	0.4	6	1.5	--	2.0
Other	38	8.0	23	5.6	16	3.2
Any Two	9	1.9	4	1.0	10	2.0
No Response	185	39.0	178	43.3	229	45.3
Total	473	100	410	100	507	100

Table 4.8

Highest Level of Education of
Adult Vocational Teachers in the
Western, Central and Eastern Regions of Pennsylvania

Education	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
Grade School	2	0.4	3	0.7	2	0.4
High School--Less Than Four Years	5	1.1	5	1.2	7	1.4
High School--Graduation or G.E.D.	64	13.5	70	17.1	85	16.8
One Year College	15	3.2	14	3.4	31	61.
Two Years College--No Degree	45	9.5	45	11.0	52	10.3
Two Years College--Associate Degree	11	2.3	14	3.4	19	3.7
Three Years College	28	5.9	17	4.1	35	6.9
Masters Equivalency	60	12.7	31	7.6	39	7.7
Bachelors Degree	127	26.8	124	30.2	126	24.9
Masters Degree	94	19.9	76	18.5	61	12.0
Education Specialist or Sixth Year	10	2.1	3	0.7	11	2.2
Doctorate	2	0.4	3	0.7	5	1.0
No Response	10	2.0	5	1.2	34	6.8
Total	473	100	410	100	507	100

Table 4.9

Special Training Programs Participated in by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Training	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
None	132	27.9	145	35.4	105	20.7
Apprenticeship	27	5.7	31	7.6	39	7.7
Internship	5	1.1	3	0.7	14	2.8
Business Schools	14	3.0	17	4.1	16	3.2
Trade Schools	25	5.3	19	4.6	27	5.3
Technical Schools	43	9.1	38	9.3	40	7.9
Correspondence Courses	24	5.1	16	3.9	10	2.0
Other	50	10.6	38	9.3	47	9.3
Any Two Programs	26	5.5	24	5.9	44	8.7
Any Four Programs	12	2.5	7	1.7	24	4.7
No Response	32	6.7	33	8.0	59	11.7
Total	473	100	410	100	507	100

Teachers in the Central region who reported specialized training most frequently had participated in a technical school training program. There was an equal number of teachers who participated in "other" training programs. Approximately 8 percent of the individuals in the Central and Western regions had taken two or more specialized training programs. The percentage of individuals who had taken more than one special training program in the Eastern region was almost double that of the other regions.

Present Educational Development. Throughout Pennsylvania the percentage of teachers involved in educational development (the pursuit of a degree or certificate) ranged from 15-22 percent. The Central region showed the lowest number of adult vocational teachers currently involved in educational development. Within the Central region 76.3 percent were not pursuing any type of educational degree and 74.9 percent were not pursuing any type of certificate. Sixty-nine percent of the teachers in the Western region, and 60.9 percent of the teachers in the Eastern regions were not pursuing any type of degree. Only 17.1 percent of the teachers in the Western region and 21.1 percent of the teachers in the Eastern region are presently working on another certificate. Figures 4.1 and 4.2 present these findings.

Specific Training in Teaching Adults. Table 4.10 presents the frequency and percentage of individuals throughout the three regions of Pennsylvania who have participated in specific training in teaching adults. Adult vocational teachers who had specific training in teaching adults had acquired it most often through continuing education courses. Twenty-eight percent of the adult vocational teachers in the Central region had taken at least one continuing education course to assist them in teaching adults. The percentages were similar in the other regions. Approximately 17 percent of the adult vocational teachers in the Central region, 20 percent of the teachers in the Western region, and on the average 16 percent of the teachers in the Eastern region had participated in either a workshop for college credit, a workshop for no credit, or a workshop in a continuing education unit which dealt with the teaching of adults.

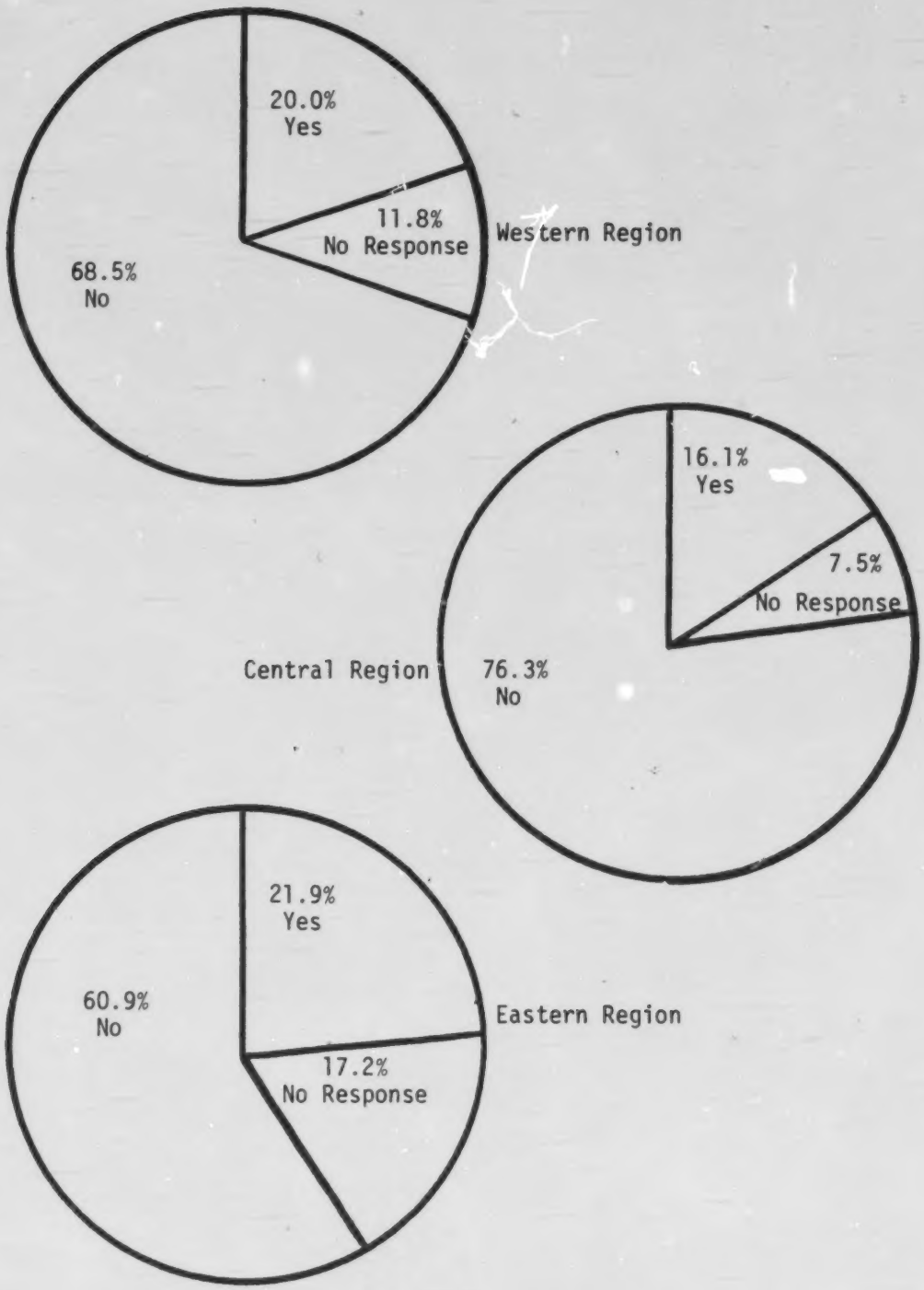

Figure 4.1. Percent of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania Currently Working on Another Degree.

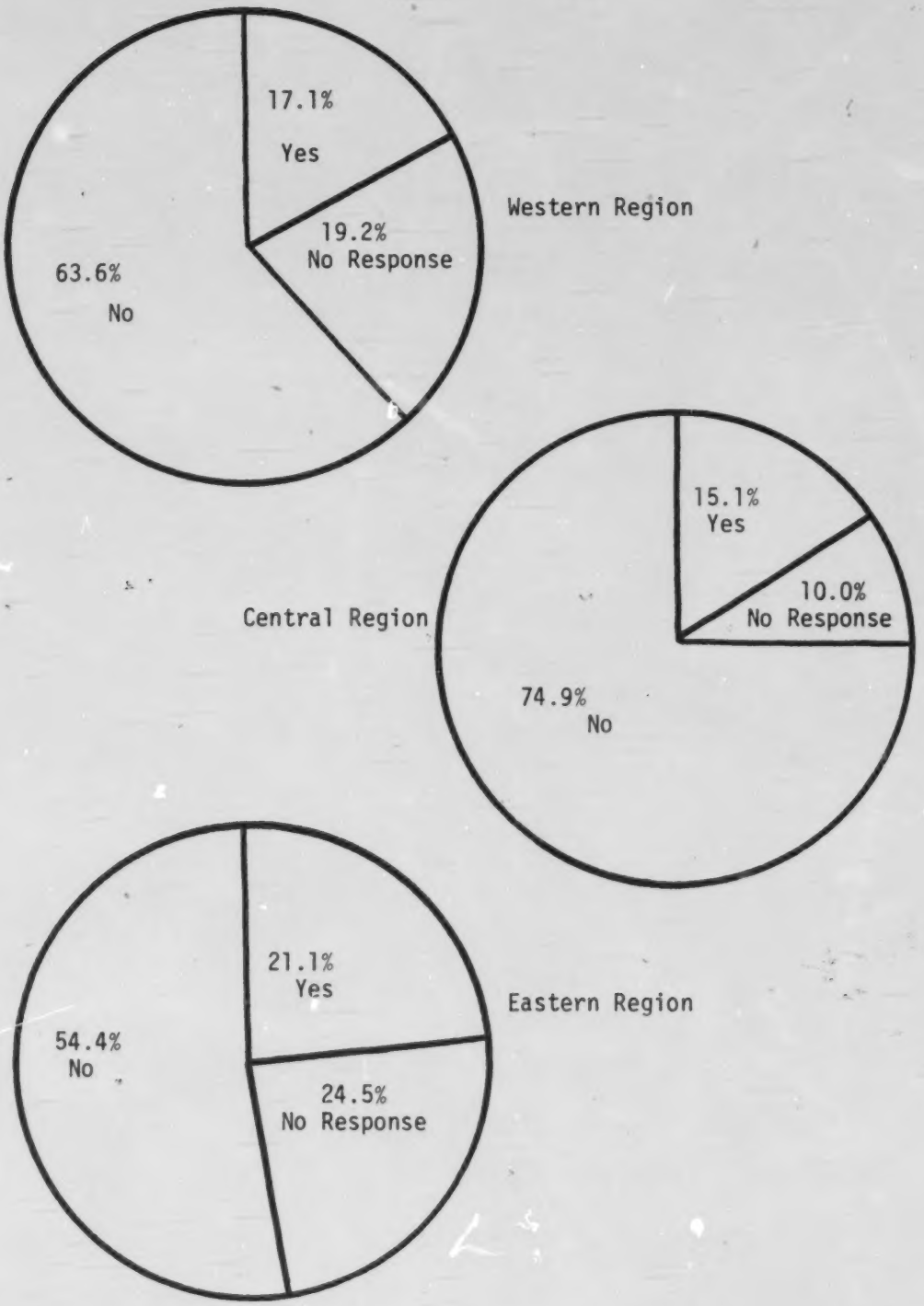

Figure 4.2. Percent of Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania Currently Working on Another Certificate.

Table 4.10

Specific Training in Teaching Adults Participated in by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Trainings		Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
Workshops for College Credit	Yes	82	19.3	72	17.6	71	14.0
	No	271	57.3	288	70.2	300	59.2
	No Response	120	25.4	50	12.2	136	26.8
	Total	473	100	410	100	507	100
Workshops for No Credit	Yes	95	20.1	70	17.1	82	16.2
	No	264	55.8	281	68.5	285	56.2
	No Response	114	24.1	59	14.4	140	27.6
	Total	473	100	410	100	507	100
Workshop for CEU's	Yes	89	18.8	72	17.6	97	19.1
	No	259	54.8	287	70.0	297	58.6
	No Response	125	26.4	51	12.4	112	22.3
	Total	473	100	410	100	507	100
Continuing Education Courses	Yes	139	29.4	113	27.6	145	28.6
	No	237	50.1	256	62.4	248	48.9
	No Response	97	20.5	41	9.9	114	22.5
	Total	473	100	410	100	507	100

Certification of Part-time Adult Vocational Teachers

Figure 4.3 presents the summary of adult vocational teachers' perceptions concerning the need for part-time adult vocational teachers to be certificated. Fifty percent of the adult vocational teachers responding to the questionnaire felt a need to certificate part-time adult vocational teachers. Fifty-two percent of the teachers in the Eastern region,

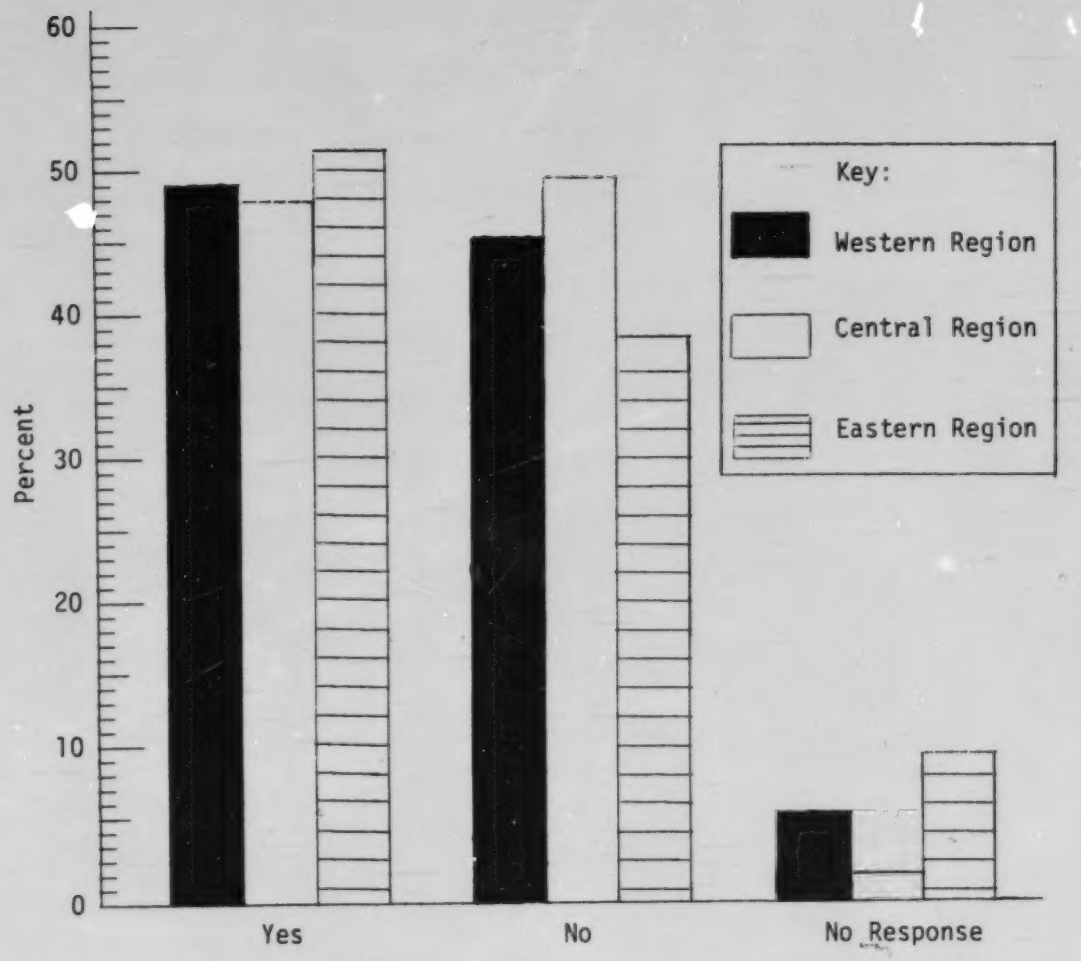

Figure 4.3. Perceptions of Adult Vocational Teachers in the Western, Central, and Eastern Regions of Pennsylvania Concerning the need for Part-time Adult Vocational Teachers to be Certificated.

48 percent of the teachers in the Central region and 49 percent of the teachers in the Western region were in favor of part-time teachers being certificated. Forty-four percent of the adult vocational teachers in the state felt that part-time adult vocational teachers should not be certificated and 6 percent indicated "no response."

Competency Areas

Part II of the survey questionnaire was designed to determine the inservice needs of adult vocational teachers in various competency areas. For each competency area, respondents indicated the level of proficiency needed by adult vocational teachers, and the level of proficiency they personally had acquired. Proficiency level choices were given as follows: 1 = "no," 2 = "slight," 3 = "moderate," 4 = "considerable," and 5 = "complete."

Average Regional Proficiency Scores. Figures 4.4, 4.5, and 4.6 summarize the mean scores of respondents to both the level of proficiency needed, and the level of proficiency acquired by adult vocational teachers, for each competency area. The competencies are numbered in the order in which they appear on the survey instrument (see Appendix B). The figures illustrate a direct correlation between the proficiency level needed and the proficiency level acquired in the competencies with the two highest mean scores, competency numbers 19 and 16. Respondents from each of the three regions indicated that adult vocational teachers should be most proficient in competency number 19: "maintaining occupational safety and health standards in the lab or shop." The mean acquired proficiency score in that competency area indicated adult vocational teachers were most proficient in "maintaining occupational safety and health standards in the lab or shop."

Adult vocational teachers in all three regions expected themselves to be quite proficient in competency number 16: "providing practical shop or laboratory demonstrations"; and were found to be quite proficient in that area.

The mean scores charted in Figures 4.4, 4.5 and 4.6 illustrate a discrepancy in the types of competencies which adult vocational teachers desired proficiency in, and those which they actually had acquired proficiency. Teachers in the Western and Eastern regions indicated the level of proficiency needed by adult vocational teachers to be lowest in competency number 29: "using counseling techniques to help students solve personal problems." Adult vocational teachers in the Central region, however, indicated little need for teachers to be proficient in competency number 30: "guiding students in the use of community agencies and services." Teachers throughout the state perceived little need for adult vocational teachers to be proficient in competency number 32: "providing special instruction or assistance to second language students."

The mean acquired proficiency scores, charted in Figures 4.4, 4.5 and 4.6, indicate that adult vocational teachers in the Central region perceived themselves as having the least proficiency in competency number 32: "providing special instruction or assistance to second language students." Adult vocational teachers in the Western and Eastern regions perceived themselves as being least proficient in competency number 31: "providing special instruction or assistance to disadvantaged or handicapped students." Other competencies which adult vocational teachers perceived themselves as being less proficient in include competency number 26: "implementing and supervising activities of student vocational organizations; competency number 28: "providing infor-

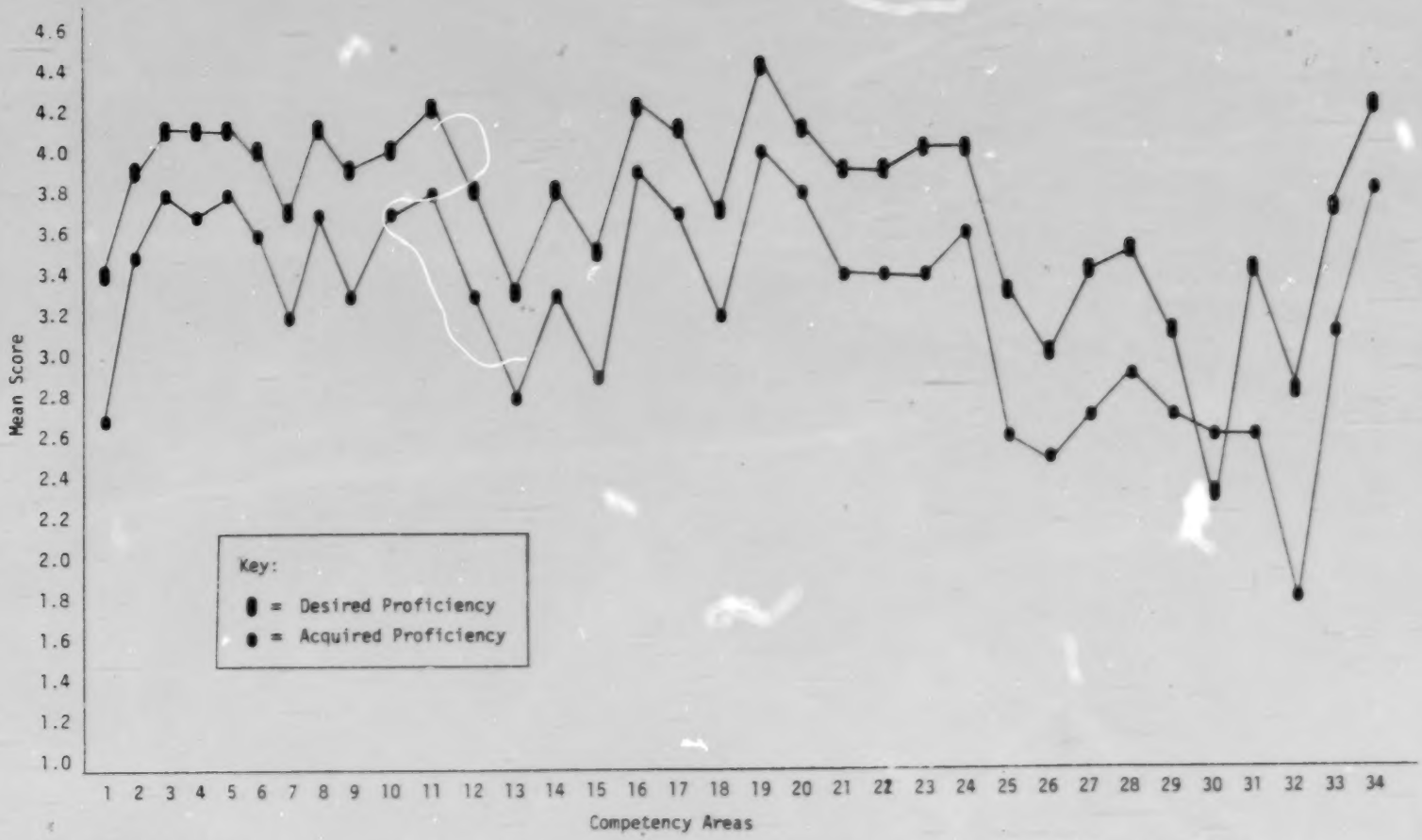

Figure 4.4. A Comparison of Mean Desired and Mean Acquired Proficiency Scores of Adult Vocational Teachers in the Central Region.

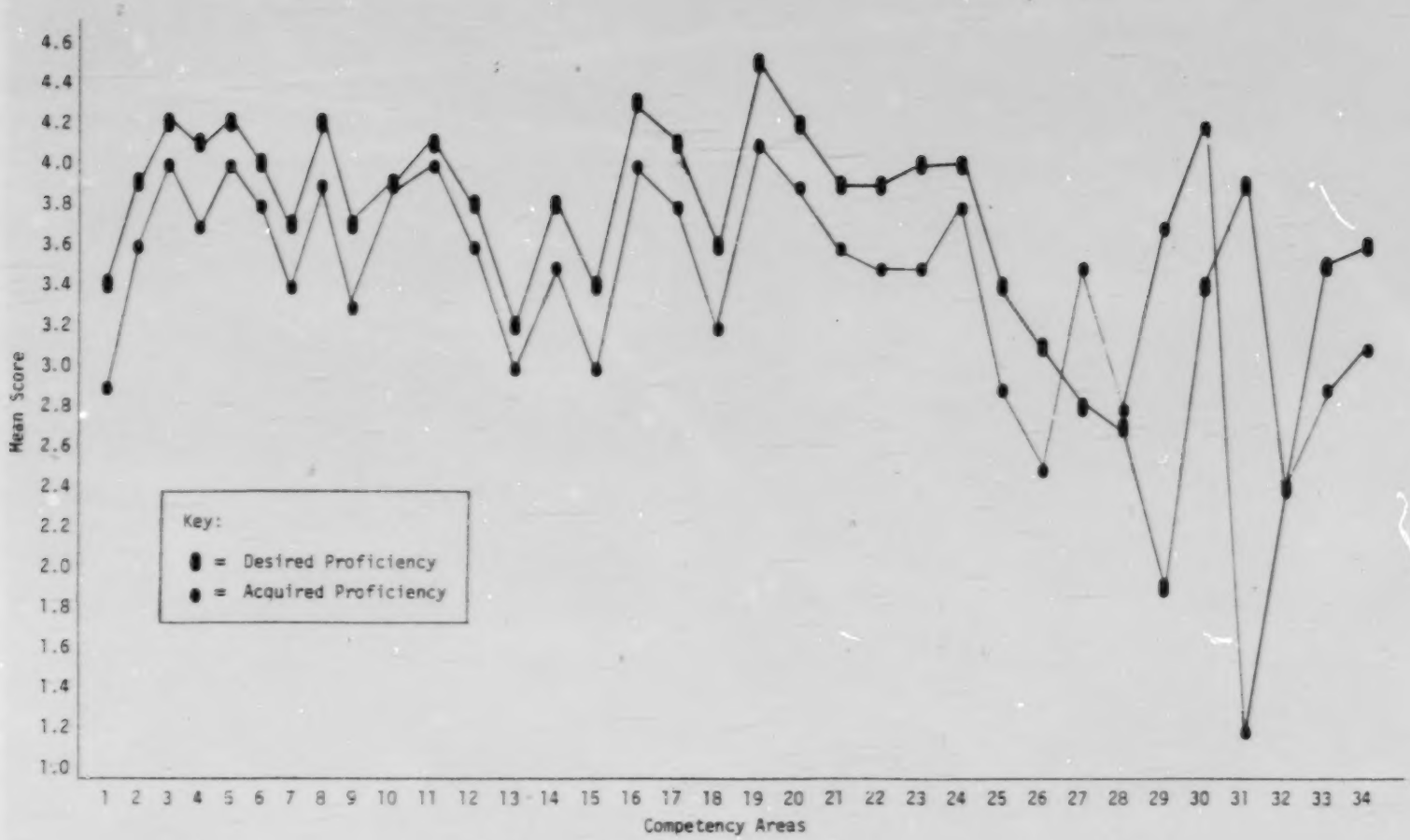

Figure 4.5. A Comparison of Mean Desired and Mean Acquired Proficiency Scores of Adult Vocational Teachers in the Western Region.

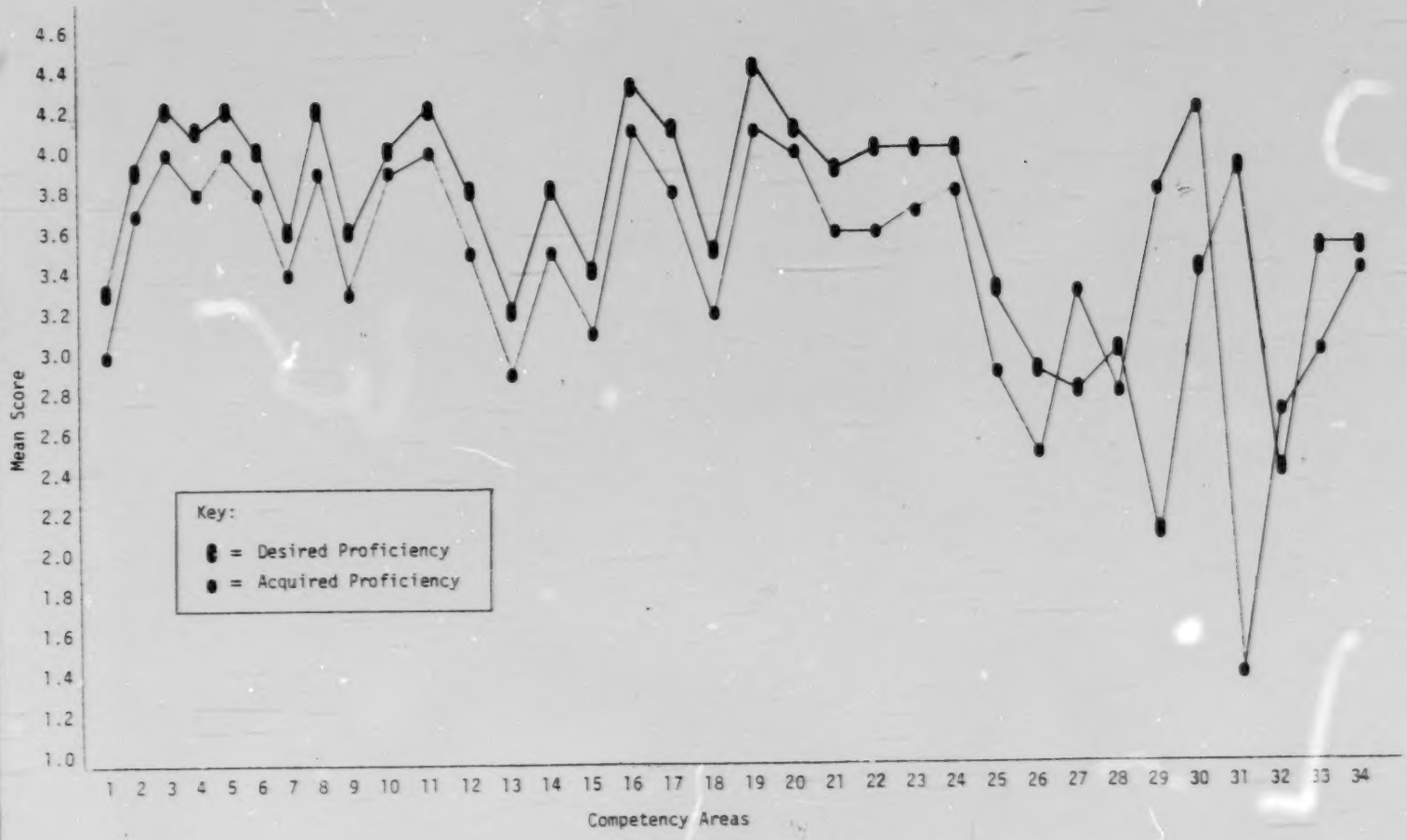

Figure 4.6. A Comparison of Mean Desired and Mean Acquired Proficiency Scores of Adult Vocational Teachers in the Eastern Region.

mation on continuing education"; competency number 30: "guiding students in the use of community agencies and services" and competency number 25: "developing a co-op work experience program."

Individual Proficiency Scores. To determine the extent adult vocational teachers needed to increase their proficiency in various competency areas an individual's acquired proficiency level was compared to the proficiency level that individual felt desirable for all adult vocational teachers to attain. Only individuals who rated themselves as having less proficiency in an area than they indicated adult vocational teachers should have, were considered to need increased proficiency.

Column two of Table C.1 found in Appendix C, presents the number of individuals in each region who needed increased proficiency in each competency area. The largest number of teachers needing to increase their proficiency in one particular competency area was 442. Ninety-seven percent of the adult vocational teachers in the Western region needed to increase their proficiency in competency number 31: "providing special instruction or assistance to disadvantaged or handicapped students." Column three of Table C.1 presents those percentages.

In each region the 34 competency areas were ranked according to the percentage of individuals needing increased proficiency. This ranking is found in column four of Table C.1. The competency showing the most need for improvement was competency number 31: "providing special instruction or assistance to disadvantaged or handicapped students." The competency area which adult vocational teachers appeared to need little improvement in, was number 29: "using counseling techniques to help students solve personal problems." The Western and Eastern regions ranked it of least priority; and the Central region ranked it twenty-first.

Column 5 of Table C.1 presents the number of proficiency units computed for each competency area. A proficiency unit was defined as the difference between the individual's perception of the desired level of proficiency needed by adult vocational teachers, and the individual's acquired level of proficiency, in a competency area. This difference score was computed by assigning a numerical value to each of the posible response categories: "no" = 1, "slight" = 2, "moderate" = 3, "considerable" = 4, and "complete" = 5. The difference was computed for every individual in each of the 34 competency areas. The number of proficiency units needed for all adult vocational teachers in each region were summed, to give a regional total for each competency area. The number of proficiency units ranged from 18 to 1219 with 160.52 being the average.

To determine the "average units per person," the regional total of proficiency units was divided by the total number of teachers in that region needing to increase their proficiency in each competency area. The average number of units per person ranged from 1.15 to 2.76 with the mean being 1.32. Column six of Table C.1 presents those findings.

Competencies Ranked in Order of Need to Increase Proficiency. Tables 4.11, 12, and 13 show the 34 competency areas ranked by the percentage of adult vocational teachers needing increased proficiency. Table 4.11 presents the competencies as ranked by adult vocational teachers in the Western region. Adult vocational teachers in the Western region needed to increase their proficiency most in competency area number 31: "providing special instruction or assistance to disadvantaged or handicapped students." "Utilizing an advisory committee to determine student and community needs ranked second in priority, competency number

Table 4.11

Competency Areas Ranked According to the Needs of Teachers in the Western Region

Rank Order	Statement
1	Providing special instruction or assistance to disadvantaged or handicapped students
2	Utilizing an advisory committee to determine student and community needs
3	Developing a co-op work experience program
4	Implementing and supervising activities of student vocational organizations
5	Recognizing special characteristics of the adult learner
6	Revising courses in accordance with current occupational trends
7	Maintaining class interest to keep students in the program
8	Assessing program effectiveness
9	Relating instruction to the culturally different student
10	Assisting students in reading skills
11.5	Developing audio-visual materials
11.5	Assessing teacher effectiveness
13	Providing information on continuing education
14	Utilizing outside resource persons and services
15	Providing special instruction or assistance to second language students
16	Determining tools to measure student achievement
17	Mutual planning of individual programs with each student
18	Providing successful educational experiences for each student
19	Providing learning experiences for students with individual differences
20.5	Determining course outcomes
20.5	Developing group and individual learning activities to facilitate instruction
22	Selecting instructional materials
23	Developing a course of study
24	Analyzing student performance
25	Planning a unit of instruction from the course of study
26	Implementing the learning activities in the classroom
27	Maintaining occupational safety and health standards in the lab (or shop)
28	Using audio-visual equipment
29	Providing practical shop or laboratory demonstrations
30	Maintaining student records
31	Writing a lesson plan
32	Assisting students in career orientation and job placement
33	Guiding students in the use of community agencies and services
34	Using counseling techniques to help students solve personal problems

1. Competencies that commonly dealt with in traditional methods courses (numbers 10, 12, 16 and 24) ranked in the lower priority levels. The lowest ranking competency areas dealt with counseling the student in personal problems; community agencies and services; and career orientation and job placement (competency numbers 27, 29 and 30).

Table 4.12 presents the competencies as ranked by adult vocational teachers in the Central region. Three of the first four ranked competencies implied teachers needed help in working with the special needs adult learner. Adult vocational teachers in the Central region needed to increase most of their skills in competency number 32: "providing special instruction or assistance to second language students"; while "providing special instruction or assistance to handicapped or disadvantaged students competency number 31 ranked second in priority. Competency numbers 27, 28, 29 and 30, dealing with counseling techniques were ranked throughout the distribution. Teachers in the Central region indicated less need for increasing proficiency in "maintaining student records," than any other competency.

Adult vocational teachers in the Eastern region ranked competency number 31, dealing with special needs students of highest priority. Competency number 32: "providing special instruction or assistance to second language students" was the competency area indicating the most need for improvement. Teachers in the Eastern region ranked counseling competencies (numbers 27, 29 and 30) of least priority, and traditional methods competencies were dispersed throughout the distribution. Table 4.13 presents those findings.

Table 4.12

Competency Areas Ranked According to the Needs of Adult Vocational Teachers in the Central Region

Rank Order	Statement
1	Providing special instruction or assistance to second language students
2	Providing special instruction or assistance to disadvantaged or handicapped students
3	Assisting Students in Career Orientation and Job Placement
4	Relating Instruction to the Culturally Different Student
5	Utilizing an Advisory Committee to determine student and community needs
6	Recognizing special characteristics of the adult learner
7	Developing a co-op work experience program
8	Providing Information on Continuing Education
9	Implementing and Supervising activities of Student Vocational Organizations
10	Assessing Teacher Effectiveness
11	Utilizing outside resource persons and services
12	Providing Learning Experiences for Students with individual differences
13.5	Mutual planning of individual programs with each student
13.5	Providing successful educational experiences for each student
15	Assisting Students in Reading Skills
16	Determining Tools to measure student achievement
17.5	Revising courses in accordance with current occupational trends
17.5	Selecting Instructional Materials
19	Maintaining class interest to keep students in the program
20	Determining course outcomes
21	Using counseling techniques to help students solve personal problems
22	Assessing Program Effectiveness
23	Developing audio-visual materials
24	Developing group and individual learning activities to facilitate instruction
25	Analyzing Student Performance
26	Developing a course of study
27	Guiding Students in the use of community agencies and services
28	Planning a Unit of instruction from the course of study
29	Implementing Learning Activities in the Classroom
30	Providing practical shop or laboratory demonstrations
31	Maintaining Occupational safety and health standards in the lab
32	Using Audio Visual equipment
33	Writing a lesson plan
34	Maintaining Student Records

Table 4.13

Competency Areas Ranked According to the Needs of Adult Vocational Teachers in the Eastern Region

Rank Order	Statement
1	Providing special instruction or assistance to second language students
2	Providing special instruction or assistance to disadvantaged or handicapped students
3	Utilizing an advisory committee to determine student and community needs
4	Recognizing special characteristics of the adult learner
5	Implementing and supervising activities of student vocational organizations
6	Developing a co-op work experience program
7	Utilizing outside resource persons and services
8	Developing audio-visual materials
9	Relating instruction to the culturally different student
10	Maintaining class interest to keep students in the program
11.5	Assisting students in reading skills
11.5	Assessing program effectiveness
13	Assessing teacher effectiveness
14	Providing learning experiences for students with individual differences
15	Determining course outcomes
16	Determining tools to measure student achievement
17	Providing information on continuing education
18	Mutual planning of individual programs with each student
19	Providing successful educational experiences for each student
20	Revising courses in accordance with current occupational trends
21	Using audio-visual equipment
22	Developing group and individual learning activities to facilitate instruction
23	Selecting instructional materials
24	Maintaining occupational safety and health standards in the lab or shop
25	Planning a unit of instruction from the course of study
26	Developing a course of study
27	Analyzing student performance
28	Maintaining student records
29	Implementing the learning activities in the classroom
30	Providing practical shop or laboratory demonstrations
31	Writing a lesson plan
32	Assisting students in career orientation and job placement
33	Guiding students in the use of community agencies and services
34	Using counseling techniques to help students solve personal problems

Inservice Activities

Part III of the survey questionnaire was designed to give adult vocational teachers an opportunity for input into the planning of inservice activities. Tables 4.17 to 4.21 present these findings.

Projected Adult Vocational Teacher Participation in Inservice Activities. One thousand thirty-seven adult vocational teachers throughout Pennsylvania indicated a willingness to participate in inservice activities. That figure represented 75 percent of the adult vocational teachers responding to the questionnaire. Seventy-eight percent of the teachers in the Western and Central regions, and 69 percent of the teachers in the Eastern region were willing to participate in inservice activities. Only 17 percent of the adult vocational teachers in the state were not interested in participating in inservice activities. Figure 4.7 presents these findings.

Desired Type of Inservice Activities. Adult vocational teachers in the three regions differed in their responses to the desired type of inservice activities. Teachers in the Western and Central regions most frequently chose a "one or two day workshop." Using "a consultant on an individual basis" was the least desired method. In contrast, teachers in the Eastern region indicated "a consultant on an individual basis" as the most preferred method. One-third of the adult vocational teachers in the Eastern region chose that alternative. In all three regions a continuing education course was the second most desired method for carrying out in-service activities. Table 4.14 presents those findings.

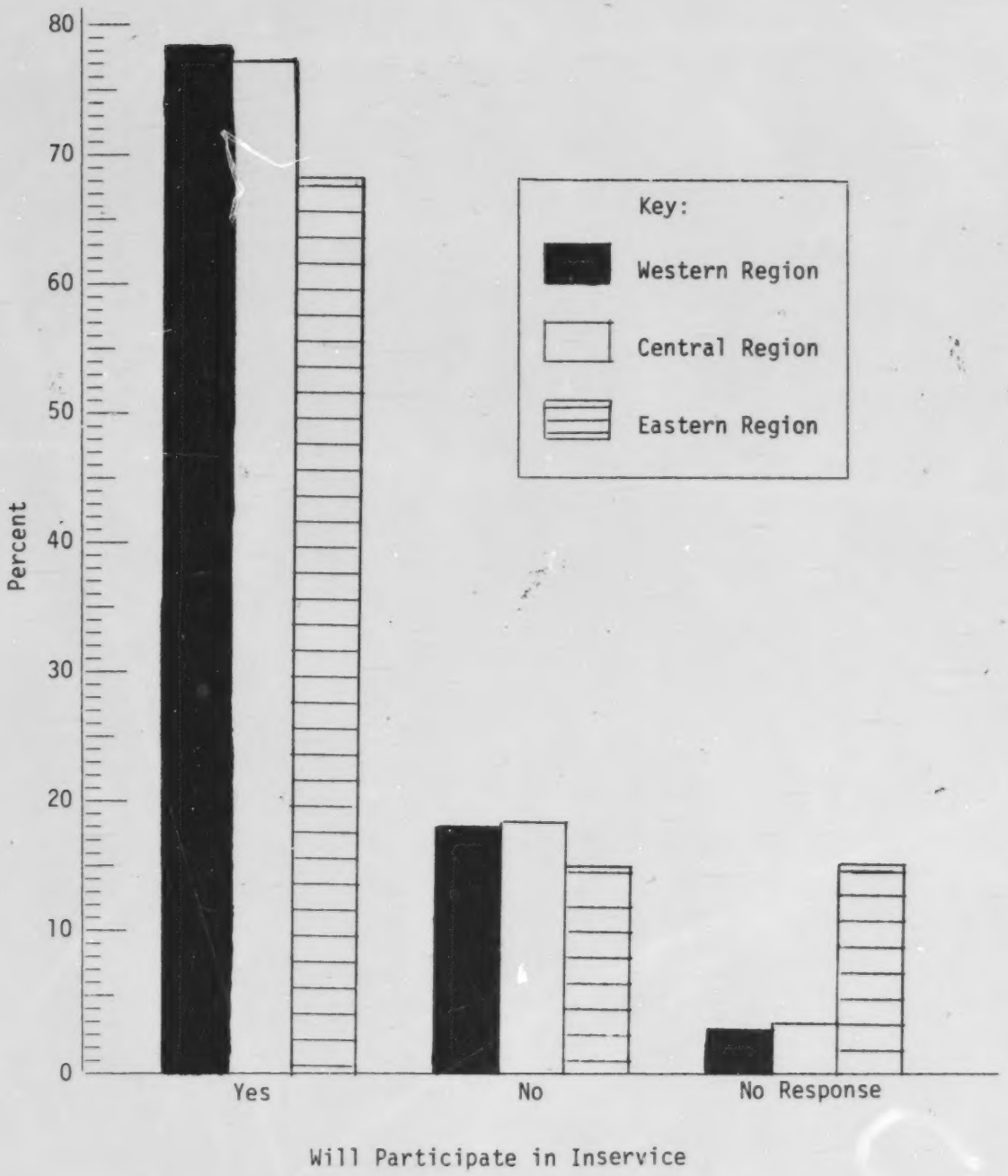

Figure 4.7. Projected Adult Vocational Teacher Participation in Inservice Activities.

Table 4.14

Type of Inservice Activities Desired by Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania

Type of In-service Activities	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
One or Two Day Workshop	196	41.4	146	35.6	29	5.7
One Week Workshop	50	10.6	33	8.0	76	15.0
Consultant on an Individual Basis	32	6.8	28	6.8	165	32.5
Continuing Education Course	113	23.9	119	29.0	156	30.8
Combination of More Than One	26	5.5	19	4.6	59	11.6
No Response	56	11.8	65	15.9	22	4.4
Total	473	100	410	100	507	100

Type of Credit Desired. Forty percent of the adult vocational teachers in the Western and Central regions preferred that inservice activities be offered for graduate credit. Only 14 percent of the teachers in the Eastern region chose that alternative. Most frequently, teachers in the Eastern region preferred that inservice activities be offered for undergraduate credit. That alternative was selected by 35.5 percent of the teachers in the Eastern region, 22.0 percent of the teachers in the Western region and 19.3 percent of the teachers in the Central region. Approximately one-fourth of the teachers in each region stated they had no preference concerning the type of credit given for inservice activities. Table 4.15 presents those findings.

Table 4.15

Type of Credit Desired by
Adult Vocational Teachers in the
Western, Central and Eastern Regions of Pennsylvania for
Participation in Inservice Activities

Type of Credit Desired	Western Region Number	% of Total	Central Region Number	% of Total	Eastern Region Number	% of Total
Graduate Credit	180	38.1	149	36.3	70	13.8
Undergraduate Credit	104	22.0	79	19.3	180	35.5
Graduate and Undergraduate	6	1.3	4	1.0	38	7.5
No Credit	26	5.5	15	3.7	91	17.9
Don't Care	115	24.3	106	25.6	118	23.3
No Response	42	8.9	57	13.9	10	2.0
Total	473	100	410	100	507	100

Most Convenient Times for Adult Vocational Teachers to Attend Inservice Activities. Table 4.16 presents the responses of adult vocational teachers in the three regions as to the most convenient times for them to attend inservice activities. On the average, one-half of the individuals responding to the questionnaire, did not respond to the item. Those responding from each of the three regions were in agreement that weekday "evenings" and Saturday "days" were the most convenient times for them to attend inservice activities. Teachers in the Eastern, Central and Western regions felt Monday evening to be the most convenient "evening" meeting time, and Saturday to be the most convenient "day" meeting time.

Table 4.16

Most Convenient Times for Adult Vocational Teachers in the Western, Central and Eastern Regions of Pennsylvania to Attend Inservice Activities

Day	Western Region Number	Western Region % of Total	Central Region Number	Central Region % of Total	Eastern Region Number	Eastern Region % of Total
Monday						
*Day	49	10.4	28	6.8	47	9.3
**Late Afternoon	42	8.9	31	7.6	81	16.0
***Evening	158	33.4	142	34.6	116	22.9
Any Two of the Above	9	1.9	12	2.9	18	3.6
No Response	215	45.4	197	48.0	245	48.3
Total	473	100	410	100	507	100
Tuesday						
Day	39	8.2	28	6.8	36	7.1
Late Afternoon	34	7.2	30	7.3	72	14.2
Evening	119	25.2	110	26.8	87	17.2
Any Two of the Above	6	1.3	7	1.7	16	3.2
No Response	275	58.1	235	57.3	296	58.4
Total	473	100	410	100	507	100
Wednesday						
Day	39	8.2	27	6.6	44	8.7
Late Afternoon	34	7.2	36	8.8	90	17.8
Evening	127	26.8	117	28.5	99	19.5
Any Two of the Above	4	0.8	8	2.0	13	2.6
No Response	269	56.9	222	54.1	261	51.5
Total	473	100	410	100	507	100
Thursday						
Day	34	7.2	24	5.9	41	8.1
Late Afternoon	32	6.8	30	7.3	84	16.6

Table 4.16--Continued

Day	Western Region Number	Western Region % of Total	Central Region Number	Central Region % of Total	Eastern Region Number	Eastern Region % of Total
Evening	118	24.9	116	28.3	81	16.0
Any Two of the Above	6	1.3	9	2.2	8	1.6
No Response	283	59.8	231	56.3	293	57.8
Total	473	100	410	56.3	507	100
Friday						
Day	33	7.0	23	5.6	42	8.3
Late Afternoon	30	6.3	24	5.9	69	13.6
Evening	103	21.8	86	21.0	74	14.6
Any Two of the Above	6	1.3	7	1.7	7	1.4
No Response	301	63.6	270	65.8	315	62.1
Total	473	100	410	100	507	100
Saturday						
Day	165	34.9	146	35.6	158	31.2
Late Afternoon	31	6.6	10	2.4	27	5.3
Evening	17	3.6	14	3.4	16	3.2
Any Two of the Above	5	1.1	4	1.0	5	1.0
No Response	255	53.9	236	57.6	301	59.4
Total	473	100	410	100	507	100

*Day (8-3:30 p.m.)

**Late Afternoon (3:30-5:30 p.m.)

***Evening (After 5:30 p.m.)

Distance Adult Vocational Teachers were Willing to Travel to Attend Inservice Activities. Of the 1187 adult vocational teachers responding to the item, 73 percent preferred to drive no more than 30 miles to attend inservice activities. Ninety-two percent of the teachers in the Central region preferred to drive 60 miles or less. Responses of teachers in the Western region were similar. Nine out of ten teachers in the Eastern region, however, preferred to drive no more than 45 miles. Table 4.17 summarizes these findings.

Table 4.17

Distance Adult Vocational Teachers in the Western, Central and Eastern Regions Were Willing to Travel to Attend Inservice Activities

Miles	Western Region Number	Western Region % of Total	Central Region Number	Central Region % of Total	Eastern Region Number	Eastern Region % of Total
0-15 miles	145	35.5	112	32.7	196	44.9
16-30 miles	138	33.7	122	35.7	154	35.3
31-45 miles	57	13.9	48	14.0	41	9.4
46-60 miles	28	6.8	32	9.3	23	5.2
61-75 miles	7	1.7	6	1.8	--	--
76-90 miles	9	2.2	5	1.5	1	0.2
91-105 miles	4	0.9	6	1.8	3	0.7
Over 105 miles	21	5.1	11	3.2	18	4.3
Total	409	100	342	100	436	100

Chapter V

Discussion and Recommendations

Discussion

Part-time adult vocational teachers have been perceived as having special inservice needs because of the temporary nature of their position, their background and experiences, the scope and purposes of the programs they teach, and the diverse abilities, experiences and needs of the students they serve.

Related studies have used a competency assessment approach to determine the needs of adult vocational and adult-vocational teachers who teach specific subject matter areas. Although the number of competencies varied from study to study, several general competency areas were common to all: program planning, development and evaluation; curriculum development, guidance, classroom management, and providing instruction to special groups.

Competencies selected for use in other studies as well as contemporary trends and issues in adult vocational education were examined. A survey instrument was then designed to fulfill the three objectives of this study: to examine in detail 1) the biographical characteristics of part-time adult vocational teachers, 2) their perceived inservice needs, and 3) their preferences for inservice activities. Responses were grouped by vocational regions in Pennsylvania. The findings of this study were presented by region in order to facilitate teacher education institutions, in providing pre- and inservice activities closely related to the needs of the teachers in the regions they serve.

Lack of certification requirements and incomplete recording systems limited the body of knowledge available pertaining to the characteristics of adult vocational teachers in Pennsylvania. The first concern of this study was to determine the background and experiences of the survey population. To achieve this goal several questions requesting biographic and demographic information were asked. The results of these questions found that the average adult vocational teacher in Pennsylvania 1) was between the ages of 36 and 40; 2) was teaching secondary full-time and adult vocational part-time; 3) had 2-3 years full-time teaching experience in adult vocational education; 4) had 4-5 years of part-time teaching experience in adult vocational education; 5) had 3-5 years work experience, other than teaching, in their adult vocational teaching area; 6) held no valid teaching certificate; 7) had participated in no special training program; and 8) was not pursuing any type of degree or certificate.

One-half of the adult vocational teachers responding to the survey felt a need for part-time adult vocational teachers to be certificated. Forty-four percent of the remaining 50 percent, felt that adult vocational teachers should not be certificated, and 6 percent did not respond.

The findings of this study reflect some of the biographical characteristics, inservice needs, and preferences of part-time vocational teachers found in related research studies.

The demographic data obtained from the part-time vocational teachers in Pennsylvania showed that approximately 18 percent of the teachers had 20 years or more of work experience; other than teaching. Holmen (1970)

found 35 percent of the surveyed trade and technical teachers had more than 20 years trade experience. This discrepancy in the years work experience should not be of concern in adult vocational programs in Pennsylvania. The part-time adult vocational teacher appears to be adequately prepared in the trade based on past work experiences.

Holman (1970) also found that one-third of the sample population had no formal education beyond high school graduation. The teachers surveyed in Pennsylvania reflect a higher general education level. Eighty-two percent of Pennsylvania's adult vocational teachers had some formal education beyond high school. It was found that one-half did not have college degrees.

These figures help document the need for increased activity in the educational development of the part-time vocational teacher in Pennsylvania.

The competency areas identified as major elements of concern by part-time vocational teachers in Pennsylvania were

1) providing special instruction or assistance to disadvantaged or handicapped students,
2) providing special instruction or assistance to second language students,
3) utilizing an advisory committee to determine student and community needs,
4) implementing and supervising activities of student vocational organizations, and
5) recognizing special characteristics of the adult learner.

Mocker (1974) and Fenn (1972) identified the ability to effectively work with the disadvantaged adult learner as a major competency needed by adult basic education teachers. The concerns in working with the special needs adult learner by Pennsylvania's part-time teachers indicate that the characteristics of this adult clientele resemble that of the adult basic education teacher. The individual instruction needed by a special needs population was also identified by part-time community college instructors as a major problem by Smitt (1971).

"The use of advisory committees to determine student and community needs" was ranked as an inservice competency priority. This was a competency area found to be important for pre- and inservice agriculture education programs. Morris (1956) found community and public relations a major concern for adult teachers of agriculture. Public relations was identified as a problem area for adult agriculture teachers in the initial teaching situation according to Reed (1969). The advisory committee is one instrument for development of community and public relations; therefore should be included in activities for pre- and inservice education of adult vocational teachers.

Student vocational organizations are important in adult vocational programing. Reed (1967) identified competencies relative to advising Future Farmers of America as a concern for entering agriculture teachers. This competency area was not included in most studies reviewed. The development of activities designed to provide leadership and group skills is becoming increasingly important for the part-time vocational teacher. The results of this study indicate that adult vocational teachers perceive a need to introduce or update abilities in implementing and supervising vocational student organizational activities.

Part-time adult vocational teachers in Pennsylvania ranked "Recognizing special characteristics of the adult learner" as a competency area needed in professional inservice activities. Andragogical concepts should be included in pre- and inservice activities for adult vocational teachers. The planning, organizing, and implementing activities relevant to the needs and abilities of the adult learner is paramount to the development of viable adult vocational programs. Competencies which enable the adult vocational teacher to adequately deal with the scope of adult vocational programming are often not included in professional development activities for the part-time adult vocational teacher.

Holmen (1970) found that one of the main causes for the problem areas identified was inadequate educational preparation. Chambliss (1966) recommended inservice activities in the form of seminars and institutes to provide professional educational assistance for the adult vocational teacher. Witmer (1971) indicates that there is a need for pre- and inservice instruction in Pennsylvania.

The results of this study showed that approximately 70 percent of all the respondents were willing to participate in inservice activities for the part-time adult vocational teacher. The need for inservice activities inclusive of competencies relevant to the perceived needs of the part-time adult vocational teacher is becoming increasingly important for the expansion and improvement of adult vocational education in Pennsylvania.

Recommendations

Based on the findings of this study and those reviewed it is recommended that

1) comprehensive vocational teacher education programs in Pennsylvania include full-time faculty with professional preparation in Adult Education,
2) inservice activities for part-time adult vocational teachers be provided on a continuous basis,
3) inservice activities be implemented as a comprehensive program for all vocational categories,
4) the delivery of inservice activities be conducted at times and locations most convenient for the part-time adult vocational teacher, and
5) certification standards be developed and implemented for the improvement of adult vocational education in Pennsylvania.

References

Baldus, A Lorayne, Improvement Instructional Capabilities of Part-time Vocational Education Call Staff. Center for Vocational Technical and Adult Education, University of Wisconsin-Stout, 1974.

Bowlan, Sizemore, "An Evaluation of Selected Criteria for Assessing the Effectiveness of Adult Vocational Education in the Oklahoma City Public Schools as Perceived by 3 Respondent Groups." Ed.D. Dissertation, Oklahoma State University, 1972.

Bureau of Vocational Education, Pennsylvania Department of Education, A Pennsylvania State Plan Vocational-Technical Education Programs. Harrisburg, Pennsylvania, 1977.

Cain, John Norman, "Teacher Characteristics and Background Qualifications Significant to Maximum Teaching Effectiveness with Implications for Staffing Vocational Education Centers in Oakland County, Michigan." Ph.D. dissertation, Michigan State University, 1970.

Center for Vocational Education, Ohio State University, Performance-Based Curricula Program. Center for Vocational Education, Ohio State University, 1975.

Chambliss, Kinneth M., "Staff Needs for Planning In-service Education Programs in Adult Trade-Technical Institutes." Ed.D. Dissertation, Texas A&M University, 1966.

Fenn, Norman Edgar, Jr., "The Identification of Competencies Pertinent to the Certification of Teachers in Adult Basic Education." Doctoral Dissertation, Florida State University, 1972.

Flood, Riefford Brown, "Factors Associated with Success of Adult Education in Vocational Agriculture in Arkansas." Ed.D. dissertation, University of Arkansas, 1964.

Frank, Harry Elmer, Jr., "Factors Influencing Perceptions of the Ideal Adult Vocational Education Programs for Public Secondary Schools." Ph.D. dissertation, Florida State University, 1968.

Gunderson, Q., Lindahl, D., Miller, J., Courtney, E., Professional Education Competencies of Community College Instructors. Division of Vocational, Adult, and Community College Education, Oregon State University, 1971.

Holmen, Holger Emanual, "Professional Problems of Trade and Technical Education Teachers in the 15 postsecondary schools of Iowa with Implications for Inservice Teacher Education." Ed.D. dissertation, University of Missouri-Columbia, 1970.

Johnston, Garvin Howell, "A Study of Factors Related to the Need for Teacher Preparation Programs for Technical Education in Mississippi Junior Colleges." Ed.D. dissertation, University of Southern Mississippi, 1968.

Kennedy, William, "Preparation, Orientation, Utilization, and Acceptance of Part-time Instructors." Junior College Journal. 37 (7):14-15, April 1967.

Klabenes, Robert Eugene, "Assessment of the Results of an Inservice Education Program for Postsecondary Vocational-Technical Education Instructors." Ed.D. dissertation, University of Nebraska-Lincoln, 1971.

Klecka, W. R., Nie, N. H., Hull, C. H., Statistical Package for the Social Sciences. McGraw-Hill, New York, NY, 1975.

Knowles, Malcolm S., The Modern Practice of Adult Education. Association Press, New York, NY, 1970.

Lindahl, Donald Gene, "Commonalities in the Professional Education Competencies of Selected Community College Vocational Instructors." Ed.D. dissertation, Oregon State University, 1971.

Messerschmidt, Dale Harvey, "A study of Part-time Instructors in Vocational Technical Education among Community Colleges in Michigan." Ph.D. dissertation, Michigan State University, 1967.

Mocker, Donald, A Report on the Identification, Classification and Ranking of Competencies Appropriate for Adult Basic Education Teachers. Center for the Resource Development in Adult Education, University of Missouri-Kansas, 1974.

Morris, Jesse Anderson, "Professional Competencies Needed by Beginning Teachers of Vocational Agriculture." Ed.D. dissertation, Michigan State University, 1956.

Musgrove, William R., "Relationship of Occupational Experience, Teaching Experience, Technical Training, and College Training to Related Teaching Effectiveness of Vocational Electronics Teachers." Ed.D. dissertation, University of Missouri-Columbia, 1968.

Reed, Dale F., "Professional Problems Encountered by Vocational Agriculture teachers in Louisiana and Implications for Teachers Preparation Adjustment and Retention." Ph.D. dissertation, Louisiana State University-Agricultural and Mechanical College, 1969.

Schmitt, Carlos, "A Study of the Problems of Part-time Industrial and Technical Instructors in Selected Michigan Community Colleges," Ph.D. dissertation, 1971.

Smith, R. M., Aker, G. F., Kidd, Jr., Handbook of Adult Education. The Macmillan Company, New York, NY, 1970.

Spaulding, Loyd F., "A Study of the Relationships Between Selected Characteristics of Shop and Laboratory Instructors and Student Achievement in Vocational and Technical Education." Ed.D. dissertation, North Carolina State University, 1971.

Stough, Kenneth Francis, "An analysis of selected factors as predictors of success in Vocational Industrial Certification Courses." Ed.D. dissertation, University of Maryland, 1968.

Van Benschoten, Raymond, "Policies and Practices in the Recruitment, Selection, and Training of Trade and Industrial Education Teachers in New Jersey." Ed.D. dissertation, Rutgers University-The State University of New Jersey, 1971.

Wall, James E., Vocational Education for Special Groups. American Vocational Association, Washington, D.C., 1976.

Ward, Darrel Lin, "Vocational Education Competencies Identified for Local Leaders of Occupational Education." Ed.D. dissertation, Oregon State University, 1971.

Williams, F. N., "The Neglected Teachers: The Part-time Faculty." Adult Leadership. 21(3):83-84, Sept. 1972.

Witmer, Theodore Dean, "An Appraisal of Public Secondary School Programs in Agriculture for Adults in Pennsylvania." Ed.D. dissertation, The Pennsylvania State University, 1971.

Appendix A

Letters to Adult Vocational Instructors

THE PENNSYLVANIA STATE UNIVERSITY
COLLEGE OF EDUCATION
Division of Occupational and Vocational Studies
RACKLEY BUILDING
UNIVERSITY PARK, PENNSYLVANIA 16802

November, 1976

Dear Colleague:

The Bureau of Vocational Education has provided funds for the Division of Occupational and Vocational Studies at The Pennsylvania State University to conduct a statewide research project in adult vocational education. The purpose of the study is to determine:

1. potential participants for part-time adult vocational in-service teacher education.
2. the present proficiency level in various competency areas of adult vocational instructors.
3. the desired proficiency level in various competency areas of adult vocational instructors.

The information will then be published and used to develop a program of in-service activities for part-time adult vocational instructors. The questionnaire has been carefully coded so as to preserve your anonymity. Furthermore, your responses will be grouped with those of other adult vocational instructors, and only averages and other statistical values will be reported.

Would you please take 15 minutes out of your busy schedule to complete this questionnaire and return it in the self-addressed prepaid envelope by December 3, 1976.

Please accept my thanks in advance for your cooperation. Copies of the completed survey will be furnished upon request.

Sincerely,

F. Marvin Hole

F. Marvin Hole, Ed.D.
Assistant Professor
Vocational Education

FMH/kas

Enclosure

Home Economics Education — 814-865-5441 Industrial Arts Education — 814-863-0275 Vocational Industrial Education — 814-865-8363

THE PENNSYLVANIA STATE UNIVERSITY
247 CHAMBERS BUILDING
UNIVERSITY PARK, PENNSYLVANIA 16802

College of Education
Department of Vocational Education

November 1976

Dear Colleague:

You may recall receiving a letter earlier this month and a questionnaire pertaining to a study investigating: 1. The present proficiency level in various competency areas of adult vocational instructors; 2. The desired proficiency level in various competency areas of adult vocational instructors; 3. Potential participants for part-time adult vocational in-service teacher education.

Participation by all adult-vocational teachers will aid in making an accurate assessment of the statewide perspective on these issues.

Having not heard from you, we are again asking you to assist in our efforts to make this a valid study. Would you please take a few minutes from your busy schedule to complete the questionnaire?

The completed questionnaire may be mailed to:

F. Marvin Hole, Ed.D.
Division of Occupational & Vocational Studies
119 Rackley Building
University Park, PA 16802

Many thanks in advance for your cooperation.

Sincerely,

F. Marvin Hole
Assistant Professor
Vocational Education

FMH/kas

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Appendix B

Survey Instrument

Instructor Questionnaire

Purpose of Questionnaire:

The purpose of this questionnaire is to seek your assistance in providing information which will be useful in the development of curriculum for college and universities seeking to offer relevant teacher education courses and programs for adult vocational instructors.

PART I: Background Information

Please answer the following questions about yourself. Please answer each question by checking the appropriate blank. DO NOT WRITE YOUR NAME ANYWHERE ON THIS QUESTIONNAIRE!

1. Age

Under 25 [ ] 25-30 [ ] 31-35 [ ] 36-40 [ ]
41-45 [ ] 46-50 [ ] 51-55 [ ] 56-60 [ ]
over 60 [ ]

2. Present Employment Status

[ ] Teaching Adult Vocational classes full-time

[ ] Teaching Secondary classes full-time and Adult Vocational classes part-time

[ ] Working outside the field of education and teaching Adult Vocational classes part-time

[ ] Teaching Adult Vocational classes part-time only

[ ] Coordinator, supervisor or administrator full-time and teaching adult vocational classes part-time.

3. Teaching Area of Adult Vocational Classes

[ ] Agriculture

[ ] Distributive Education

[ ] Health Occupations Education

[ ] Useful Home Economics

[ ] Gainful Home Economics

[ ] Business Education

[ ] Technical

[ ] Trade and Industrial

[ ] Other _____

_____

4. Teaching Experience in Adult Vocational Education

Full-time

0-1 yr.	[ ]	2-3 yrs.	[ ]	4-5 yrs.	[ ]
6-10 yrs.	[ ]	11-15 yrs.	[ ]	over 16 yrs.	[ ]

Part-time

0-1 yr.	[ ]	2-3 yrs.	[ ]	4-5 yrs.	[ ]
6-10 yrs.	[ ]	11-15 yrs.	[ ]	over 16 yrs.	[ ]

5. Work Experience Other Than Teaching, in Adult Vocational Teaching Area

0-2 yrs.	[ ]	3-5 yrs.	[ ]	6-10 yrs.	[ ]
11-15 yrs.	[ ]	16-20 yrs.	[ ]	over 20 yrs.	[ ]

6. Type of Teaching Certificate(s) Held and Area of Certification

[ ] None
[ ] Vocational Intern Certificate _____
[ ] Vocational Instructional I (Provisional) _____
[ ] Vocational Instructional II (Permanent) _____
[ ] Coordinator of Vocational Education I _____
[ ] Coordinator of Vocational Education II _____

[ ] Instructional I _____
[ ] Instructional II _____
[ ] Education Specialist I _____
[ ] Education Specialist II _____
[ ] Supervisory I _____
[ ] Supervisory II _____
[ ] Administrative I _____
[ ] Administrative II _____

7. Highest Education Level

[ ] Grade School
[ ] High School--less than four years
[ ] High School--graduation or GED
[ ] One year college
[ ] Two years college--no degree
[ ] Two years college--associate degree
[ ] Three years college
[ ] Masters Equivalency
[ ] Bachelors Degree
[ ] Masters Degree
[ ] Education Specialist or sixth year
[ ] Doctorate

8. Excluding educational training covered in question #7; which of the following special training programs have you participated in?

[ ] None
[ ] Apprenticeship
[ ] Internship
[ ] Business school(s)
[ ] Trade school(s)
[ ] Technical school(s)
[ ] Correspondence course(s)
[ ] Other _____

9. Are you presently working on another

degree? [ ] yes [ ] no
certificate? [ ] yes [ ] no

10. Have you participated in any specific training for teaching of adults?

Workshop(s) for credit

[ ] yes [ ] no

Workshop(s) for no credit

[ ] yes [ ] no

Workshop(s) for college credit

[ ] yes [ ] no

College Courses

[ ] yes [ ] no

Workshop(s) for continuing education units

[ ] yes [ ] no

11. Do you feel part-time adult vocational teachers should be certificated for teaching adult classes?

[ ] yes [ ] no

PART II: Competencies of Adult Vocational Instructors

The purpose of this part of the questionnaire is to identify competency areas of special significance to adult vocational instructors. Responses will aid in planning future in-service programs.

You are to make two responses to each item. In Column A indicate the level of proficiency you feel is necessary to adult vocational teachers in general. In Column B, indicate your present proficiency in each of the competency areas.

Do not take too much time in thinking about any particular item. Please do not leave out any item--there are no right or wrong answers. We are primarily concerned with how you feel about the competencies needed by adult vocational instructors.

Example:

	Column A: What proficiency must adult vocational teachers have in:						Column B: What is your present proficiency in:					
	No	Slight	Moderate	Considerable	Complete		No	Slight	Moderate	Considerable	Complete	
				X		Interpreting the innovative provisions of the Vocational Act as amended in 1968			X			

The person marking considerable in Column A has indicated that adult vocational instructors need a considerable proficiency in interpreting the innovative provisions of the amended vocational act of 1968. In column B, the indication is that this person has a moderate level of proficiency in this area.

Column A: What proficiency must adult vocational teachers have in:						Column B: What is your present proficiency in:						
No	Slight	Moderate	Considerable	Complete		No	Slight	Moderate	Considerable	Complete		
					Utilizing advisory committee to determine student and community needs							#1
					Determining course outcomes							#2
					Developing a course of study							#3
					Revising courses in accordance with current occupational trends							#4
					Planning a unit of instruction from the course of study							#5
					Developing group and individual learning activities to facilitate instruction							#6
					Mutual planning of individual programs with each student							#7
					Selecting instructional materials							#8
					Developing audio-visual materials							#9
					Writing a lesson plan							#10
					Implementing the learning activities in the classroom							#11
					Using audio-visual equipment							#12
					Assisting students in reading instruction							#13
					Providing learning experiences for students with individual differences							#14

Column A What proficiency must adult vocational teachers have in:						Column B What is your present proficiency in:					
No	Slight	Moderate	Considerable	Complete		No	Slight	Moderate	Considerable	Complete	
					Relating instruction to the culturally different student						#15
					Providing practical shop or laboratory demonstrations						#16
					Providing successful educational experiences for each student						#17
					Utilizing outside resource persons and services						#18
					Maintaining occupational safety and health standards in the lab (or shop)						#19
					Analyzing student performance						#20
					Determining tools to measure student achievement						#21
					Assessing teacher effectiveness						#22
					Assessing program effectiveness						#23
					Maintaining student records						#24
					Developing a co-op work experience program						#25
					Implementing and supervising activities of student vocational organizations						#26
					Assisting students in career orientation and job placement						#27

Column A: What proficiency must adult vocational teachers have in:						Column B: What is your present proficiency in:					
No	Slight	Moderate	Considerable	Complete		No	Slight	Moderate	Considerable	Complete	
					Providing information on continuing education						#28
					Using counseling techniques to help students solve personal problems						#29
					Guiding students in the use of community agencies and services						#30
					Providing special instruction or assistance to disadvantaged or handicapped students						#31
					Providing special instruction or assistance to second language students						#32
					Recognizing special characteristics of the adult learner						#33
					Maintaining motivation to keep students in the program						#34

PART III: In-Service Programs

There will be an in-service adult vocational teacher education program beginning March 1977. University credit will be an option for participants.

The purpose of this section is to determine the scheduling of these activities.

1. Would you be willing to participate in an in-service adult vocational teacher education program?

   [ ] Yes [ ] No

2. Would you prefer the in-service activities to be offered for:

   [ ] graduate credit [ ] no credit
   [ ] undergraduate credit [ ] don't care

3. What type of in-service program would you prefer?

   [ ] Short one or two day work shop
   [ ] One week workshop
   [ ] Consultant on an individual basis
   [ ] Once a week continuing education course

4. When would it be most convenient for you to attend?

   Monday

   [ ] Evening (after 5:30 p.m.) [ ] Late Afternoon (3:30-5:30 p.m.)
   [ ] Day (8:00-3:30 p.m.)

   Tuesday

   [ ] Evening (after 5:30 p.m.) [ ] Late Afternoon (3:30-5:30 p.m.)
   [ ] Day (8:00-3:30 p.m.)

   Wednesday

   [ ] Evening (after 5:30 p.m.) [ ] Late Afternoon (3:30-5:30 p.m.)
   [ ] Day (8:00-3:30 p.m.)

   Thursday

   [ ] Evening (after 5:30 p.m.) [ ] Late Afternoon (3:30-5:30 p.m.)
   [ ] Day (8:00-3:30 p.m.)

Friday

[ ] Evening (after 5:30 p.m.) [ ] Late Afternoon (3:30-5:30 p.m.)

[ ] Day (8:00-3:30 p.m.)

Saturday

[ ] Evening (after 5:30 p.m.) [ ] Late Afternoon (3:30-5:30 p.m.)

[ ] Day (8:00-3:30 p.m.)

5. What distance would you be willing to travel for an in-service adult vocational teacher education program?

[ ] 0-15 mi. [ ] 16-30 mi. [ ] 31-45 mi. [ ] over 46 mi.

Appendix C

Adult Vocational Teachers' Status in 34 Competency Areas

Table C.1

Adult Vocational Teachers' Status in 34 Competency Areas

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Assisting students in reading skills	Western	461	184	39.9	10.0	268	1.46
	Central	399	179	44.9	15.0	261	1.5
	Eastern	459	171	37.3	11.5	297	1.74
Providing learning experiences for students with individual differences	Western	462	159	34.4	19.0	206	1.30
	Central	401	184	45.9	12.0	241	1.30
	Eastern	462	165	35.7	14.0	225	1.36
Relating instruction to the culturally different student	Western	451	182	40.4	9.0	247	1.36
	Central	399	208	52.1	4.0	283	1.40
	Eastern	455	177	38.9	9.0	229	1.29
Utilizing an advisory committee to determine student and community needs	Western	453	221	48.8	2.0	298	1.35
	Central	399	208	52.1	5.0	310	1.50
	Eastern	457	197	43.1	3.0	293	1.49

Appendix C (Cont'd)

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Determining course outcomes	Western	458	151	32.9	20.5	180	1.19
	Central	392	164	41.8	20.0	200	1.20
	Eastern	452	157	34.7	15.0	180	1.15
Developing a course of study	Western	459	147	32.0	23.0	182	1.24
	Central	394	148	37.6	26.0	188	1.30
	Eastern	457	127	27.8	26.0	161	1.27
Revising courses in accordance with current occupational trends	Western	458	194	42.4	6.0	265	1.37
	Central	399	173	43.4	17.5	223	1.30
	Eastern	457	147	32.1	20.0	198	1.35
Planning a unit of instruction from the course of study	Western	456	139	30.5	25.0	168	1.21
	Central	401	145	36.2	28.0	172	1.20
	Eastern	456	128	28.0	25.0	159	1.24

Appendix C (Cont d)

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Developing group and individual learning activities to facilitate instruction	Western	459	151	32.9	20.5	183	1.21
	Central	398	160	40.2	24.0	192	1.21
	Eastern	458	141	30.8	22.0	179	1.27
Mutual planning of individual programs with each student	Western	460	165	35.9	17.0	213	1.29
	Central	396	180	45.5	13.5	233	1.31
	Eastern	461	152	33.0	18.0	194	1.28
Selecting instructional materials	Western	458	148	32.3	22.0	195	1.31
	Central	398	169	42.5	17.5	202	1.20
	Eastern	458	138	30.1	23.0	188	1.36
Developing audio-visual materials	Western	7	179	39.2	11.5	290	1.62
	Central	398	163	41.0	23.0	238	1.5
	Eastern	454	181	39.9	8.0	265	1.46

Appendix C (Cont'd)

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Writing a lesson plan	Western	458	120	26.2	31.0	142	1.20
	Central	401	120	30.0	33.0	167	1.40
	Eastern	453	106	23.3	31.0	142	1.34
Implementing the learning activities in the classroom	Western	457	139	30.4	26.0	162	1.17
	Central	396	140	35.3	29.0	175	1.30
	Eastern	455	113	24.8	29.0	140	1.24
Using audio-visual equipment	Western	459	137	29.8	28.0	193	1.41
	Central	399	134	33.6	32.0	181	1.41
	Eastern	459	144	31.3	21.0	218	1.51
Providing practical shop or laboratory demonstrations	Western	456	126	27.6	29.0	162	1.29
	Central	402	137	34.1	30.0	174	1.30
	Eastern	457	107	23.4	30.0	136	1.27

Appendix C (Cont'd)

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Providing successful educational experiences for each student	Western	451	160	35.5	18.0	190	1.19
	Central	401	181	45.1	13.5	218	1.20
	Eastern	458	149	32.5	19.0	186	1.25
Utilizing outside resource persons and services	Western	454	173	38.1	14.0	230	1.33
	Central	401	187	46.6	11.0	244	1.30
	Eastern	457	184	40.3	7.0	234	1.27
Maintaining occupational safety and health standards in the lab (or shop)	Western	452	136	30.0	27.0	193	1.42
	Central	401	136	33.9	31.0	188	1.41
	Eastern	460	130	28.3	24.0	173	1.33
Analyzing student performance	Western	451	141	31.3	24.0	173	1.23
	Central	401	157	39.1	25.0	186	1.20
	Eastern	462	125	27.1	27.0	159	1.27

Appendix C (Cont'd)

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Determining tools to measure student achievement	Western	450	165	36.7	16.0	217	1.32
	Central	399	176	44.1	16.0	217	1.20
	Eastern	456	157	34.4	16.0	196	1.25
Assessing teacher effectiveness	Western	451	177	39.2	11.5	227	1.28
	Central	399	190	47.6	10.0	228	1.20
	Eastern	455	166	36.5	13.0	207	1.25
Assessing program effectiveness	Western	448	182	40.6	8.0	247	1.36
	Central	282	116	41.1	22.0	140	1.20
	Eastern	451	168	37.3	11.5	211	1.26
Maintaining student records	Western	449	122	27.1	30.0	163	1.34
	Central	281	83	29.4	34.0	104	1.30
	Eastern	454	117	25.8	28.0	162	1.38

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Developing a co-op work experience program	Western	446	208	46.6	3.0	315	1.51
	Central	397	202	50.8	7.0	329	1.60
	Eastern	453	186	41.1	6.0	278	1.49
Implementing and supervising activities of student vocational organizations	Western	449	206	45.9	4.0	345	1.67
	Central	395	199	50.4	9.0	311	1.6
	Eastern	453	190	41.9	5.0	286	1.51
Assisting students in career orientation and job placement	Western	454	87	19.2	32.0	118	1.36
	Central	397	214	53.9	3.0	339	1.60
	Eastern	463	90	19.4	32.0	119	1.32
Providing information on continuing education	Western	445	173	38.9	13.0	211	1.22
	Central	402	203	50.5	8.0	272	1.30
	Eastern	456	152	33.3	17.0	224	1.47

Appendix C (Cont'd)

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Using counseling techniques to help students solve personal problems	Western	449	14	3.1	34.0	18	1.29
	Central	401	166	41.4	21.0	259	1.6
	Eastern	480	16	3.3	34.0	20	1.25
Guiding students in the use of community agencies and services	Western	454	22	4.8	33.0	29	1.32
	Central	401	150	37.4	27.0	284	1.9
	Eastern	466	33	7.1	33.0	42	1.27
Providing special instruction or assistance to disadvantaged or handicapped students	Western	455	442	97.1	1.0	1219	2.76
	Central	400	219	54.8	2.0	365	1.7
	Eastern	459	235	51.2	2.0	374	1.59
Providing special instruction or assistance to second language students	Western	408	153	37.5	15.0	323	2.11
	Central	398	251	63.1	1.0	413	1.6
	Eastern	459	241	52.5	1.0	390	1.61

		N	Number Needing Increased Proficiency	Percent of Total	Rank	Proficiency Units	Average Units Per Person
Recognizing special characteristics of the adult learner	Western	454	197	43.4	5.0	339	1.72
	Central	402	206	51.2	6.0	288	1.4
	Eastern	461	197	42.5	4.0	294	1.5
Maintaining class interest to keep students in the program	Western	457	193	42.2	7.0	276	1.43
	Central	402	171	42.5	19.0	215	1.3
	Eastern	464	174	37.5	10.0	238	1.37

N = total responses to item
Number needing increased proficiency = the number of persons indicating a need to increase their proficiency in the skill area
Percent of Total = N ÷ Number needing increased proficiency
Rank = according to percent of total
Proficiency units = f x (desired proficiency - present proficiency)
Average units per person = Proficiency Units ÷ Number needing increased proficiency